# BULLETIN
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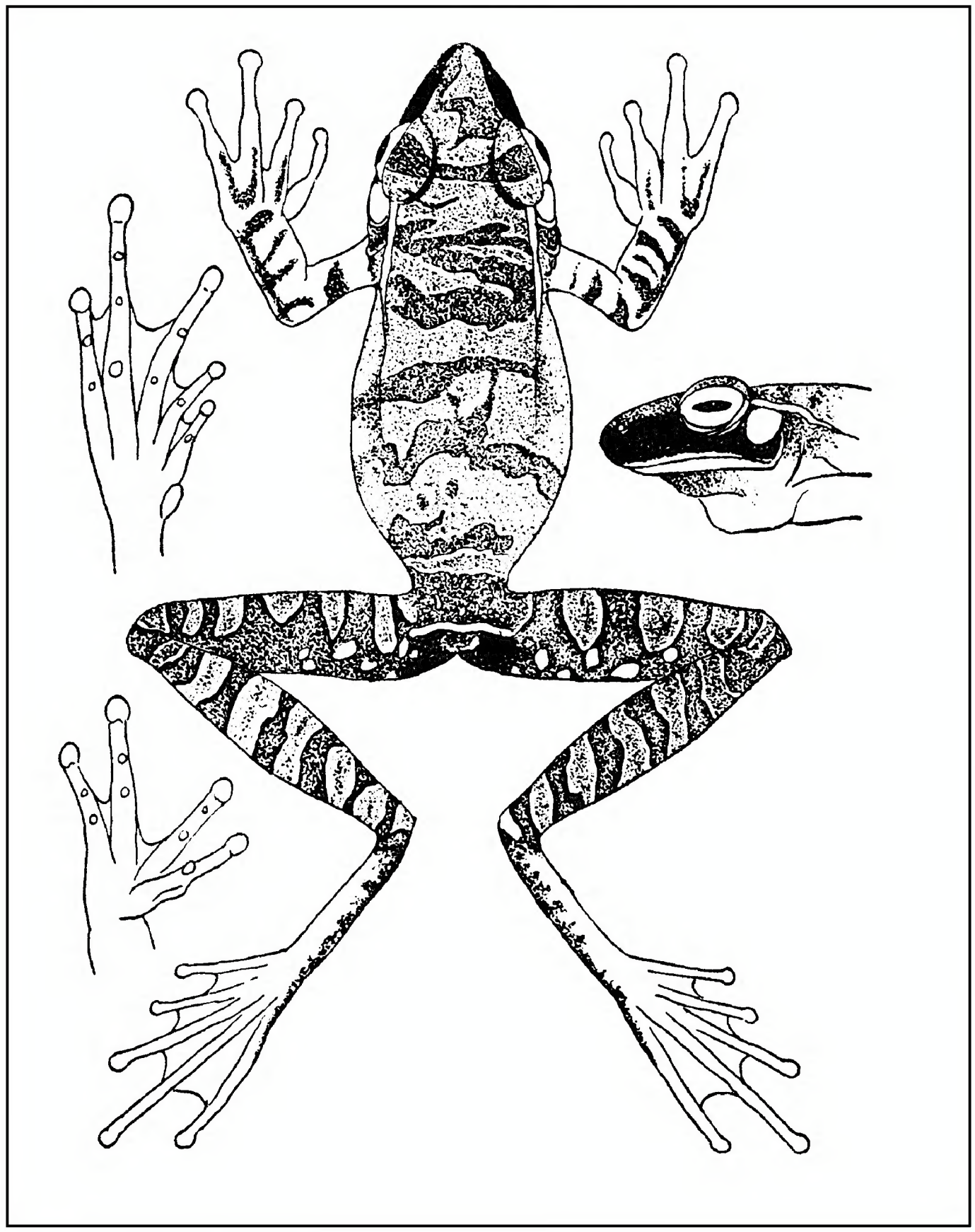

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# Miscellaneous 2002 Lizards from Chihuahua, Mexico

**Julio A. Lemos-Espinal[1], David Chiszar[2] and Hobart M. Smith[3]**

## Abstract

The 31 taxa here reported include: a small range extension of *Aspidoscelis m. marmorata* in northwestern Chihuahua; altitude records for *Anolis nebulosus*, *Sceloporus nelsoni barrancarum* and *Urosaurus ornatus caeruleus*; hatchling dates for *Holbrookia approximans*, *Phrynosoma hernandesi*, *Sceloporus c. clarkii*, *S. j. jarrovii*, *S. poinsettii macrolepis*, *Urosaurus bicarinatus tuberculatus* and *U. ornatus schottii*; ontogenetic color and/or pattern change in *Ctenosaura macrolopha*, *Sceloporus j. jarrovii* and *S. nelsoni barrancarum*; redefinition of *Holbrookia approximans*, so defined as to include populations of southeastern Arizona and southwestern New Mexico, to the exclusion there of *H. elegans*; rejection of *Phrynosoma hernandesi brachycercum*; discovery of another site of near sympatry of *Sceloporus edbelli* and *S. undulatus consobrinus*; intergradation of *Sceloporus p. poinsettii* and *S. p. macrolepis*; rarity of males in *Sceloporus slevini*; reinterpretation of the frontal in *Urosaurus bicarinatus tuberculatus*; and a redefinition of the subspecies of *Urosaurus ornatus* in Chihuahua.

## Introduction

The specimens here reported were collected in Chihuahua, unless otherwise indicated, in the summer of 2002. Except for *Aspidoscelis m. marmorata*, all *Aspidoscelis* will be reported elsewhere. All specimens are in the collection of Unidad de Biología, Tecnología y Prototipos (UBIPRO), UNAM, to which catalog numbers refer.

*Anolis nebulosus* (Wiegmann). 9228-9, km 42 Samachique-Batopilas (2 km S de la Bufa) (27°6′57.9″N, 107°37′1.2″W), 1070 m; 10595-6, Arroyo Las Borregas (27°33′4.3″N, 108°32′21.1″W), 470 m; 10613, Agua Salada (27°22′54.1″N, 108°28′8.6″W), 536 m.

The altitudinal range of this species considerably exceeds that of most species occurring in the southwestern corner of the state.

*Aspidoscelis marmorata marmorata*. 10090-2, entrance to Pradera de Janos, km 28 Janos-Agua Prieta (31°2′39.2″N, 108°25′50.7″W), 1392 m; 10498-9, 10542, Ojo de Agua, Estación Guzmán, at Laguna de Guzmán 31°13′19.7″N, 107°27′8.2″W), 1449 m; 10543-6, Ojos de Santa María, Rancho Santa María, at Laguna Santa María (31°9′21.6″N, 107°19′14,0″W), 1200 m; 10639, Médano de Jaco (28°1′20.7″N, 104°0′58.9″W), 1323 m.

The Janos and Guzmán records indicate a wider range of the subspecies in northwestern Chihuahua than is depicted in Hendricks and Dixon (1986). The Jaco specimen came from within the range of *A. m. reticuloriens* as depicted by Hendricks and Dixon (1986), but we still regard the arguments of Lemos-Espinal et al. (1994), synonymizing the two nominal taxa, as valid, despite acceptance of separate validity by de Queiroz, Reeder and Sites (2000).

*Cophosaurus texanus scitulus* Peters. 9715, 9730, Caseta Galeana, plains of Flores Magón (30°0′29.9″N, 107°15′11.6″W), 1500 m; 10425, middle of Cañon del Oso, Sierra de San Luis (31°16′17.7″N, 108°43′7.0″W), 1661 m; 10484-90, Ojo De Agua, Estación Guzmán, at Laguna de Guzmán (31°13′19.7″N, 107°27′8.2″W), 1449 m; 10519-26, Ojos de Santa María, Rancho Santa María, NW Laguna Santa María (31°9′21.6″N, 107°19′14.0″W), 1200 m; 10639, pastures of Jaco (28°1′20.7″N, 104°0′58.9″W), 1323 m.

The sides of the body are prominently speckled, especially anterior to the abdominal semeions, in males, not in females.

*Crotaphytus collaris* (Say). 10502, Ojos de Agua, Estación Guzmán, at Laguna Guzmán (31°13′19.7″N, 107°27′8.2″W), 1449 m; 10548-50, Ojos de Santa María, Rancho Santa María, NW Laguna Santa María (31°9′21.6″N, 107°19′14.0″W), 1200 m.

All are adults, profusely white-speckled on a uniformly dark brown ground color; anterior collar much smaller than posterior collar.

*Ctenosaura macrolopha* Smith. 9022-3, 9082, 9328, 9379-9400, 9438, Arroyo El Camuchil, Batopilas and rd to Satevo (27°1′34.1″N, 107°45′44.5″W), 435 m; 9364, Satevo (26°59′25.8″N, 107°45′52.0″W), 567 m.

The femoral pores vary 5–7, larger in males than in females; one male, 89 mm SVL, is especially heavily pigmented ventrally; the largest male, 120 mm SVL, is moderately pigmented ventrally, and a third male, 106 mm SVL, is no more pigmented than the females. The largest female is 106 mm SVL. Three young, 45-48 mm SVL, are unusual in having a bright green area in the occipital-parietal-postocular area; in one the color extends on the neck to the axillary level. They were taken July 10–12.

*Elgaria kingii kingii* Gray. 9554-60, 9617, orchard N Rancho Mojarachi (27°51′46.4″N, 107°55′47.0″W), 2211 m; Arroyo del Agua, nr Maguarichi (27°54′45.6″N,

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107°58′49.2″W), 2083 m.

In all the dark crossbands are of much the same medial width (2–3 scale rows) as the light interspaces (2–3 scale rows), conforming with the character-state in *E. k. kingii*. The localities represented fall within the known range of the subspecies.

*Elgaria usafa* Smith, Lemos-Espinal, Chiszar and Igrasci (2003). 10177, ruins Rancho El Mesteño Chiquito (27°51′46.5″N, 107°55′47.0″W), 2224 m.

*Eumeces brevirostris bilineatus* Tanner. 9666, 3 km N detour to Mojarachi (27°56′2.2″N, 107°54′3.2″W), 2232 m.

*Gambelia wislizenii* (Baird and Girard). 10501, Laguna de Guzmán, Ojo de Agua, Estación Guzmán (31°13′19.7″N, 107°27′8.2″W), 1449 m. A subadult with a bright pattern of light crossbars, between which are three dark spots on each side, the median ones the largest, collectively forming three longitudinal series of round spots on each side.

*Holbrookia approximans* Baird. 7375, 27.8 km NW Bermejillo, Durango (20°6′50.5″N, 103°44′2.4″W), 1126 m; 7376, 37.8 km NW Bermejillo, Durango (26°10′47.0″N, 103°48′13.5″W), 1131 m; 7380, E Rancho La Zorra (26°15′50.3″N, 103°36′42.6″W), 1112 m; 7385, toll bridge brecha Ejido El Quemado (26°20′19.1″N, 103°54′40.9″W), 1160 m; 7697, Llano El Kilo (30°57′7.2″N, 106°28′42.9″W), 1296 m; 7698-9, 3 km W Villa Ahumada (30°35′19.8″N, 106°36′18.5″W), 1227 m; 7733, 7736-9, Llano Flores Magón (29°58′57.6″N, 107°9′8.7″W), 1454 m; 7797-7807, 3 km N Durango line, hwy 49 (26°41′13.8″N, 104°16′8.3″W), 1230 m; 2 km W Ejido El Quemado (26°24′53.4″N, 103°45′9.1″W), 1145 m; San Dionisio, Durango (26°12′9.1″N, 103°41′47.2″W), 1111 m; 9713-4, Rancho El Pastor, SE end Sierra del Nido (29°35′17.6″N, 106°29′46.2″W), 1475 m; 9717, Caseta Galeana, Llanos de Flores Magón (30°0′29.9″N, 107°15′11.6″W), 1500 m; 9832-3, 30°22′11.4″N, 108°14′8.7″W), 1682 m; 9887, 9982-8, 9993-6, entrance Cañon de la Madera, Sierra de San Luis (31°12′53.4″N, 108°41′51.9″W), 1612 m; 10010-4, 10031-2, 10399, 10401, middle Cañon de la Madera, Sierra de San Luis (31°13′41.1″N, 108°44′5.6″W), 1638 m; 10052-60, 10079-89, km 28, Janos-Agua Prieta (31°2′39.2″N, 108°25′50.7″W), 1392 m; 10195, E side Ojo Laguna, betw Ejido and lake (29°26′47.8″N, 106°19′34.1″W), 1548 m; 10426, middle Cañon del Oso, Sierra de San Luis (31°16′17.7″N, 108°43′7.0″W), 1661 m.

The name *approximans* Baird was long applied to populations of *H. maculata* west of the continental divide in the United States, and somewhat east thereof in Texas and New Mexico. Axtell (1998) pointed out that Baird's name applies to what was long known as *H. dickersonae* Schmidt of northern Mexico, in Nuevo León and Coahuila. Tanner (1987) applied Baird's name to all *Holbrookia* in western Chihuahua, inadvertently, under the pre-1998 understanding of the name, correctly.

Material accumulated by JLE over several years (Lemos-Espinal et al., 2000, 2001, 2002) has documented the range of *H. approximans* over the central and eastern parts of Chihuahua. The present specimens confirm that the species extends also into the northwestern part of the state, adjacent to southeastern Arizona and southwestern New Mexico. The distribution of the species as now known covers most of Chihuahua, excluding the Sierra Madre and its western slopes, and the northcentral and extreme northeastern areas, where *H. maculata* occurs. These two species have closely approximated ranges (Lemos-Espinal et al., 1994, 2002), with apparent sympatry in the east, and possibly in the northcentral area.

Two categorical differences exist between *H. maculata* and *H. approximans*, a different one in each sex. In males the lateral abdominal semeions include a blue patch surrounding the usually two, sometimes three (in either sex), black slashes. The blue is particularly extensive in the western and eastern populations, less so in an intermediate area in central Chihuahua. In the latter area the blue sometimes requires magnification to be detected. Blue is never present in the abdominal semeions of *H. maculata*, and the black slashes never number three.

In females of *H. approximans* the lateral abdominal slashes are much smaller and lighter in color than the ones in males, not black. They are sometimes scarcely evident. In *H. maculata* the black bars are as well developed in females as in males.

The few previously available, inadequate samples from the extreme northwest have been variously interpreted. Some were erroneously regarded as *H. m. flavilenta* Cope (Lemos-Espinal et al., 2001, 2002), and as *Holbrookia elegans* Bocourt (Lemos-Espinal et al., 2002). The large series here reported from the extreme northwest makes it evident that all populations there are *H. approximans*. The males have large patches of blue in the abdominal semeions, and the females have poorly developed semeions.

The secure documentation of *H. approximans* in northwestern Chihuahua suggests that the adjacent populations in adjacent southeastern Arizona and southwestern New Mexico that have long been called *H. pulchra* Schmidt (or *H. maculata pulchra* or *H. elegans pulchra*) are in reality *H. approximans*. All have the abdominal markings characteristic of that species. It was not then known that a species with those characteristics exists nearby; the closest then known was *H. elegans*, which also has the same diagnostic features distinguishing it from *H. maculata* that *H. approximans* has.

*Holbrookia elegans* as understood at present is limited to the coastal plains of Sinaloa, and low altitude deserts of Sonora and southcentral Arizona. It is not yet known from Chihuahua; the record for northwestern Chihuahua (Lemos-Espinal et al., 2002) was a misidentification of *H. approximans*. Records for Arizona are given in Taylor (1938), and as part of the type series of *H. pulchra* (Cochran, 1961). The species is widely separated from *H. approximans*, which occurs at more humid, higher altitudes of southeastern Arizona and southwestern New Mexico, as well as adjacent northwestern Chihuahua. We regard the two as separate species partly on these ecological and geographic grounds. In addition, *H. elegans* ("*H. macu-*

*lata thermophila*") was regarded by Adest (1978a, b) as electrophoretically distinct from other *H. maculata* subspecies as then understood.

Morphologically, *H. elegans* and *H. approximans* are not distinguishable on the basis of any discernible, objectively categorical criteria. We find no reliable differences in scalation (despite frequent reference to supraocular scale size) or tail length, all variable in one or the other or both species. The chief difference is that in adult male *H. elegans* the black abdominal slashes are broader and extend farther onto the ventral surface, and their blue enclosures are larger than in at least adjacent *H. approximans*. The latter species averages slightly smaller; males over 54 mm SVL average 58 mm (N=22; maximum 67 mm), whereas they average 64 mm (N=12, maximum 70 mm) in *H. elegans*.

All factors considered, we regard the two taxa as separate species despite their close similarity.

*Phrynosoma cornutum* (Harlan). 9716, 9727, Caseta Galeana, plains of Flores Magón (30°0′29.9″N, 107°15′11.6″W), 1500 m; 10048, 10093, Entrada a Pradera de Janos, km 28 Janos-Agua Prieta (31°2′39.2″N, 108°25′50.7″W), 1392 m; 10187-8, Ejido Venustiano Carranza (28°21′29.3″N, 104°31′53.2″W), 1499 m; 10517, Ojo de Agua, Estación Guzmán, NW Laguna Santa María (31°9′21.6″N, 107°19′14.0″W), 1200 m.

*Phrynosoma hernandesi* (Girard). 9140-3, 9206-8, Mesa de Agostadero, Cerro Blanco (26°54′38.7″N, 106°47′14.1″W), 2356 m; 10139, La Quebrado del Mesteño (29°27′37.2″N, 106°51′5.5″W), 2248 m; 10400-1, middle of Cañón de la Madera, Sierra de San Luis (31°13′41.1″N, 108°44′5.5″W), 1638 m.

These samples, all in the western mountains, are from southern, central and northern areas, presumably embracing the range of *P. h. brachycercum* (southern) as well as that of *P. h. hernandesi* (northern). The former supposedly has a shorter tail than the latter, but the present series does not bear out that distinction, at least in ratio of tail to SVL. The ratio is low in the northern and central specimens, at 33–37%, whereas it varies 36–59% in the southern series.

Near hatchlings, taken 12 May, are present in the northern and southern series, varying 26–30 mm SVL. In all of the juveniles the tail is brightly banded dorsally and ventrally. In the two subadults, 43 and 55 mm SVL (10139, 10400) no tail bands are present, or are very dim. The banding appears to be strictly a juvenile, and not a taxonomic, characteristic.

*Phrynosoma modestum* Girard. 9741, Caseta Galeana, plains of Flores Magón (30°0′29.9″N, 107°15′11.6″W), 1500 m.

An adult male, ventral surface of head through center of chest heavily pigmented, sides of abdomen less so.

*Phrynosoma orbiculare bradti* Horowitz. 9561, orchard N Rancho Mojarachi (27°51′46.4″N, 107°55′47.0″W), 2211 m.

A large female, 94 mm SVL, tail 60 mm (64% SVL). Femoral pore series separated by 9 scales, total 32. Having less than 45 femoral pores, this specimen resembles *P. o. durangoensis* Horowitz (35–46 *fide* Horowitz, 1955) rather than *P. o. bradti* (43–70 *fide* Tanner, 1987). However, the former was considered a synonym of the latter in Webb (1984).

*Sceloporus clarkii clarkii* Baird and Girard. 9000-14, 9026-35, 9059-65, 9080-1, 9235-8, 9248-54, 9320-7, 9333-5, 9367-9, 9370-2, 9381-98, 9407, 9409-15, 9461-8, 10587-90, Arroyo El Camuchil, Arroyo Los Tachos, and Batopilas (27°1′34.1″N, 107°45′44.5″W), 435 m; 9344-5, 9351-3, 9357-61, Satevo (26°59′25.8″N, 107°45′52″W), 567 m; 9624-6, Maguarichi (27°51′29.2″N, 107°59′41.6″W), 1667 m; 9828-31, 9840, forest of Río Piedras Verdes, 1 km S Red Rock (30°22′11.4″N, 108°14′8.7″W), 1682 m; 9989, 9997, mouth Cañon de la Madera, Sierra de San Luis (31°12′53.4″N, 108°41′51.9″W), 1612 m; 10028-30, 10389-91, 10405, middle of Cañon de la Madera, Sierra de San Luis (31°13′41.1″N, 108°44′5.5″W), 1638 m; 10408-9, middle of Cañon del Oso, Sierra de San Luis (31°16′17.7″N, 108°43′7″W), 1661 m; 10477, Rancho Bros. Brown(=Los Nogales), mpio Janos (31°10′32.6″N, 108°35′9.7″W), 1461 m; 10631, Arroyo Las Borregas (27°23′4.3″N, 108°32′21.1″W), 470 m.

The largest, a male, is 117 mm SVL. The smallest (10627, 6 October) is 29 mm SVL; others are 30 mm (10389, 17 September), 31 mm (10391, 17 September), 36 mm (10477, 20 September), and 42 mm (10631, 6 October) SVL.

In 13 adult males from southwestern Chihuahua, chosen randomly (in the interest of accuracy of count that cannot be assured in females and juveniles), the total femoral pores varied 20–27 ($\bar{x}$ = 23.8), 92% of which were 23 or more. These figures conform with expectation in *S. c. clarkii*, and differ from those in *S. c. boulengeri*, as pointed out by Lemos-Espinal et al. (2001).

Females and young have more or less distinct crossbands on body and tail, exceptionally well pronounced in some individuals, both adult and immature. Adult males are unicolor or nearly so, except for anterior and posterior white borders of an inferred or dim black collar. Those white streaks are regularly present, although the area between is usually little or no darker than elsewhere. All have a black spot at the anterior border of the arm insertion.

*Sceloporus edbelli* Smith, Chiszar and Lemos-Espinal. 9144-8, Cañon de Balleza (26°57′45.7″N, 106°26′9.6″W), 1699 m; 9725-6, 9728-9, 9742-3, Caseta Galeana (Llanos de Flores Magón) (30°0′29.9″N, 107°15′11.6″W), 1500 m; 10094, Entrada a Pradera de Janos, km 28 Janos-Agua Prieta (31°2′39.2″N, 108°25′50.7″W), 1392 m; 10135-6, base of Sierra del Nido, nr La Providencia (29°40′22.3″N, 106°37′4.4″W), 1569 m; 10198, km 90, El Sueco-Casas Grandes (29°54′58.4″N, 107°15′2.4″W), 1558 m; 10547, Ojos de Santa Marí a, Rancho Santa Marí a, NW Laguna Santa Marí a (31°9′21.6″N, 107°19′14.0″W), 1200 m.

The Balleza locality is the southwesternmost and highest known for the species.

In 5 adult males, the gular semeions are broadly fused medially in four, narrowly in one; the dorsolateral light lines

are dim or absent in four, traversed by dark lines where evident; dorsolateral dark spots indiscernible in three, small in two.

Ten adult females have faint dorsolateral light lines, crossed at intervals corresponding with the dorsolateral dark spots by narrow dark lines; gular semeions dim, small or absent; no abdominal semeions.

The species is probably sympatric with *S. u. consobrinus* in the vicinity of the Sierra de En Medio. No. 10094 was taken on a yucca in a flat, semiarid area of sandy soil, only 3–4 km from the similar collecting site of the *S. u. consobrinus* listed below.

*Sceloporus horridus albiventris* Smith. 9346, Satevo (26°59′25.8″N, 107°45′52.0″W), 567 m; 9419, Arroyo El Camuchil (27°1′34.1″N, 107°45′44.5″W), 435 m; 10619, Rancho El Jordán (27°23′16.8″N, 108°32′39.6″W),469 m; 10623, El Limón (27°24′1.0″N, 108°32′36.0″W), 451 m; 10628, Casa Colorada (27°24′13.0″N, 108°31′56.2″W), 528 m.

*Sceloporus jarrovii jarrovii* Cope. 9083-9127, 9129-30, km 209.5 Creel-Guachochi (27°5′23.1″N, 107°14′59.0″W), 2350 m; 9139, Cerro Blanco, Mesa de Agostadero (26°54′38.7″N, 106°47′14.1″W), 2356 m; 9227, Quirare (27°9′35.7″N, 107°33′40.4″W), 2250 m; 9501, km 6.5 Samachique-Batopilas (27°15′11.7″N, 107°31′24.6″W), 2315 m; 9571-6, 9609-11, orchard N Rancho Mojarachi (27°51′46.4″N, 107°55′47″W), 2211 m; 9579-88, km 7.6 San Juanito-Basaseachi (27°58′41.1″N, 107°39′43″W), 2402 m; 9596-7, 9677-84, 2 km S jct San Juanito-Basaseachi and hwy to Maguarichi (28°1′8.1″N, 107°48′57.4″W), 2313 m; 9601-3, 9606-8, km 18, Creel-Divisadero (27°39′48.4″N, 107°45′0.6″W), 2314 m; 9633-7, 9643-6, Rancho Los Llanitos, ~10 km N. Maguarichi (27°53′40.8″N, 107°57′13.6″W), 1923 m; 9654-61, Aserradero 500 m N detour to Mojarachi (27°55′5.2″N, 107°54′15.4″W), 2172 m; 9669, llano 3 km N detour to Mojarachi (27°56′2.2″N, 107°54′3.2″W), 2232 m; 9699-9700, Huevachic (28°6′26.2″N, 108°0′30.1″W), 2115 m; 9835, forests of Río Piedras Verdes, 1 km S Red Rock (30°22′11.4″N, 108°14′8.7″W), 1682 m; 10137, 5 km W las Varas, hwy to Santa Clara (29°21′47.2″N, 106°37′46.4″W), 1955 m; 10146-8, La Quebrada de Mesteño (29°27′37.2″N, 106°51′5.5″W), 2249 m; 10153-4, 10162-3, ruins of Rancho El Mesteño Chiquito (29°29′7.5″N, 106°49′15.6″W), 2224 m; 10167-9, mine ruins ~1 km N El Mesteño Chiquito (29°29′3.9″N, 106°48′51.2″W), 2223 m; 10565-7, Arroyo de Agua, nr Maguarichi (27°54′45.6″N, 107°58′49.2″W), 2083 m; 10582-3, km 107 Creel-Guachochi (27°38′45.2″N, 107°33′10.0″W), 2139 m.

Northern adults (Sierra del Nido) regularly have a well-developed light posterior border on the nuchal collar, as do juveniles. Adults from farther south lack it, hence melanization appears to be ontogenetic there. There is little evidence of an anterior border in any specimen. The smallest juveniles (25), 29–40 mm SVL, were taken within a date range of 5 July to 8 August. The maximum SVL is 84 mm, in a male.

*Sceloporus lemosespinali* Lara-Góngora. 10571-2, Arroyo de Agua, nr Maguarichi (27°54′45.6″N, 107°58′49.2″W), 2083 m. One is an adult male, 43 mm SVL, with 13-14 enlarged femoral pores; a bright blue throat, that color surrounded completely by light-flecked black covering the rest of the ventral surface of the head and forming a complete ventral nuchal collar. Black borders of abdominal semeions divergent posteriorly, irregularly fused anteriorly, not reaching groin. Sides of body black, blue-flecked. A narrow, dark V-mark on neck above, followed by three wavy crosslines to rump. These characters conform with those of the original description (Lara-Góngora, in press).

The other specimen is a female 41 mm SVL.

*Sceloporus magister bimaculosus* Phelan and Brattstrom. 10507, Laguna de Guzmán, Estación Guzmán, Ojo de Agua (31°13′19.7″N, 107°27′8.2″W), 1449 m.

*Sceloporus nelsoni barrancarum* Tanner and Robison. 9019, 9036-52, 9074-7, 9233-4, 9255-78, 9332, 9373, 9403, 9416-8, 9444-56, Arroyo El Camuchil and Batopilas (27°1′34.1″N, 107°45′44.5″W), 435 m; 9230-2, 2 km S La Bufa (27°6′57.9″N, 107°37′1.2″W), 1070 m; 9341-3, 9356, Satevo (26°59′25.8″N, 107°45′52.0″W), 567 m; 10601-4, Arroyo Las Borregas (27°23′4.3″N, 108°32′21.1″W), 470 m; 10611-2, Agua Salada (27°22′54.1″N, 108°28′8.6″W), 536 m; 10632, Estación Temoris (27°15′13.1″N, 108°15′25.8″W), 528 m. The altitude of the La Bufa series is uniquely high in Chihuahua.

Adult females (36) are somewhat lighter than males, and in some faint dorsolateral light stripes are evident. The abdominal pattern varies from none in very few to the usual condition of well-developed lateral, dark-bordered semeions. In some the patteren is as bright as might be expected in males of most species of *Sceloporus*, but the semeions are never in medial contact or solid black as in all but the smallest males.

Adult males (39) are uniformly black or very dark blue on the abdomen; the chest is the same, with no or few small light areas. In this respect they differ from *S. n. nelsoni*, in which the chest is mostly light. The largest is 66 mm SVL. As Tanner (1987) pointed out, the postanals are enlarged, but usually not by just two scales, as in most *Sceloporus*, but by an immediately postanal series of scales, all or one or two of which are larger than the others.

Six female hatchlings, 22–35 mm SVL, were taken 25 September–1 October. None possess abdominal semeions, which apparently develop ontogenetically. A single hatchling male (39 mm SVL, no. 10618), however, has a white chest and well-developed abdominal semeions that are black-bordered and separate from each other, as in most females. Apparently the uniformly black or dark blue chest and abdomen of adult males is developed ontogenetically.

The late hatching date suggests spring breeding.

*Sceloporus poinsettii macrolepis* Smith and Chrapliwy. 9226, Quirare (27°9′35.7″N, 107°33′40.4″W), 2250 m; 9496, 1 km N Humira (27°25′43.0″N, 107°29′24.6″W), 1906 m; 9569-70, 9615-6, orchard N Rancho Mojarachi

(27°51′46.4˜N, 107°55′47.0″W), 2211 m; 9638-40, Rancho Los Llanitos, ~10km N Maguarichi (27°53′40.8″N, 107°57′13.6″W), 1923 m; 9648-9, thermal waters ~13 km N Maguarichi (27°53′58.9″N, 107°56′35.1″W), 1923 m; 9665, sawmill 500 m N detour to Mojarachi (27°55′5.2″N, 107°54′15.4″W), 2172 m; 10558-62, Presones de la Capilla de los Remedios, Lago Los Mexicanos (28°7′7.5″N, 106°56′28.9″W), 2165 m; 10568-70, Arroyo del Agua, nr Maguarichi (27°54′45.6″N, 107°58′49.2″W), 2083 m.

Only two males are in this series. One exhibits the broad orange streak lateral to the blue semeions that is unique to this subspecies; the other has a faint, narrow orange streak on one side, not the other. The latter specimen is the largest, 111 mm SVL, and has extensive black markings in the light area between the abdominal semeions; the throat is all blue except for a black border.

The four adult females, maximum SVL 107 mm, have the throat more or less diagonally black-streaked. Two have weak abdominal semeion black borders, laterally bordered by pale orange; the other two have no evidence of abdominal semeions.

Nine recently hatched juveniles taken 13–19 July are 32–37 mm SVL; one taken 13 July is 39 mm SVL, and one taken 15 July is 70 mm SVL.

All have prominent dark cross bands across the dorsum, separated from each other by a narrow light line occupying about one scale row; no linear pattern is evident, as in *S. p. poinsettii* and *S. p. polylepis*. The occipital light bar is usually obscure and fragmented. The tail rings are strongly pronounced by virtue of the contrasting white interspaces.

The dorsals are 27–31 ($\bar{x}$ = 28.8, N = 19), 92% 30 or fewer (vs 13% in 128 *S. p. poinsettii*, and 0% in 84 *S. p. polylepis*).

*Sceloporus poinsettii macrolepis* × *S. p. poinsettii* Baird and Girard. 10134, 1.5 km W Las Varas, hwy to Santa Clara (29°21′53.7″N, 106°36′21.0″W), 1569 m; 10138, 17.9 km W Las Varas (29°18′51.7″N, 106°41′19.9″W), 2225 m; 10140-2, La Quebrada del Mesteño Chiquito (29°27′37.2″N, 106°51′5.5″W), 2249 m; 10149, 10155-61, ruins of Rancho El Mesteño Chiquito (29°29′7.5″N, 106°49′15.6″W), 2224 m; 10151, mine ruins ~1 km N El Mesteño Chiquito (29°29′3.9″N, 106°48′51.2″W), 2223 m.

No adult males are in this series, unfortunately for comparison with male *S. p. macrolepis*. The 5 adult females (82–102 mm SVL) have the cross-barred pattern weaker than in *S. p. macrolepis*, and one has longitudinal striae along the lateral edges of the dorsal scales—a pattern unknown in *S. p. macrolepis*.

The dorsal scale count is 29–33 ($\bar{x}$ = 31.1, N = 14), with 21% below 31, and 21% over 32. In *S. p. poinsettii* these igures (Smith and Chrapliwy, 1958) are 27–36 ($\bar{x}$ = 32.5, N = 128), 13% below 31, and 50% over 32. The comparable figures for the present *S. p. macrolepis* are 27–31 ($\bar{x}$ = 28.8, N = 19), 92% below 31, and 0% over 32.

Until further material is available, the Sierra del Nido population is best considered as an intergrade between *S. p. poinsettii* and *S. p. macrolepis*.

The 9 subadults vary in SVL 27–50 mm and were taken 7–9 August.

*Sceloporus slevini* Smith. 9135-6, km 215, hwy 25 (27°3′46.7″N, 107°12′1.0″W), 2331 m; 9138, Mesa de Agostadero, Cerro Blanco (26°54′38.7″N, 108°47′14.1″W), 2356 m; 9562-3, orchard N Rancho Mojarachi (27°51′46.4″N, 107°55′47.0″W), 2211 m; 9589, km 12 San Juanito-Basaseachi (27°58′17.8″N, 107°49′15.0″W), 2375 m; 9605, km 18 Creel-Divisadero (27°39′48.4″N, 107°45′0.6″W), 2314 m; 9668, plains 3 km N branch to Mojarachi (27°56′2.2″N, 107°54′3.2″W), 2232 m; 10143-5, La Quebrada del Mesteño (29°27′37.2″N, 106°51′5.5″W), 2249 m; 10150, 10166, 10170, ruins of Rancho El Mesteño Chiquito (29°29′7.5″N, 106°49′15.6″W), 2224 m; 10152, mine ruins 1 km N El Mesteño Chiquito (29°29′3.9″N, 106°48′15.6″W), 2223 m; 10584-5, km 114 Creel-Guachochi (27°35′32.6″N, 107°32′56.9″W), 2139 m; 10658, km 7.6 San Juanito-Basaseachi (27°58′41.1″N, 107°39′43.0″W), 2402 m.

All but one of the 18 are females, four unicolor; the largest female is 59 mm SVL, the single male 50 mm. Hatchlings 25–29 mm SVL were taken between 26 September and 8 October. Of the 27 others reported by Lemos-Espinal et al. (2000, 2001), all were females. The significance of this disparity in numbers of the two sexes remains to be clarified.

*Sceloporus undulatus consobrinus* Baird and Girard. 10427-9, Rancho Bros. Brown (= Rancho Los Nogales) (31°10′32.6″N, 108°35′9.7″W), 1461 m.

All are females, darkly colored, with broad, bright, uninterrupted, white dorsolateral stripes, sharply different from the pattern of nearby *S. edbelli* (q.v.).

*Sceloporus virgatus* Smith. 9568, orchard N Rancho Mojarachi (27°51′46.4″N, 107°55′47.0″W), 2211 m; 9627-8, Rancho Los Llanitos, ~10 km N Maguarichi (27°53′40.8″N, 107°57′13.6″W), 1923 m; 9834, Rí o Piedras Verdes, 1 km S Red Rock (30°22′11.4″N, 108°14′8.7″W), 1682 m.

*Uma exsul* Schmidt and Bogert. 7876-7884, sand dunes south of Sierra Texas, mpio Viesca, Coahuila (25°28′43.9″N, 103°2′14.9″W), 1112 m, 1 September.

All have a single, black lateral abdominal semeion. Six are near-hatchlings, at 33–38 mm SVL, and one is but little larger, at 48 mm SVL.

*Urosaurus bicarinatus tuberculatus* Schmidt. 9020-1, 9066-7, 9279, 9288-93, 9317-9, 9375-8. 9701-2, 9405, 9468-10, 10591-3, Arroyo El Camuchil and Batopilas (27°1′34.1″N, 107°45′44.5″W), 435 m; 9349-50, 9361, Satevo (26°59′25.8″N, 107°45′52.0″W), 567 m; 10597-8, Arroyo Las Borregas (27°23′4.3″N, 108°32′21.1″W), 470 m.

Confined to the lowlands of extreme southwestern Chihuahua, this species is readily distinguished from the only other species of the genus in Chihuahua, *U. ornatus*, not only geographically but by numerous morphological features. It is one of the more distinctive species of the genus (Wiens, 1993).

One of the criteria most readily used at a glance is the absence of blue on the throat of males; it is invariably present in all but the smallest *U. ornatus*. The latter has two rows of enlarged paravertebral scales on either side of the median series of small vertebral scales (vs one); no discontinuous laterovertebral row of enlarged scales lateral to and well separated from the paravertebrals (vs present); one parietal on each side, rarely two (vs always 2–4, 58% 2, N = 62); two gular scales contacting second infralabial (vs usually three); and caudal scales not in the form of whorls (vs whorls usually evident).

*U. bicarinatus* is also distinctive in always having an undivided frontal, although that character is easily misinterpreted, because of considerable variability of the scales between frontal and parietal. The frontal is divided in 98% of *U. ornatus*.

The division of the frontal in *U. ornatus* is in the middle of the scale; there is no such division in *U. bicarinatus*. Infrequently, in both species, a small segment may be split from the anterior part of the scale. The reason the frontal is regarded as occasionally divided in *U. bicarinatus* is that in such specimens there are three or four frontoparietals (39%, N = 31). The anterior pair lies anterior to the posterior pair, just behind the frontal. In that position, the anterior pair might be interpreted as having been split from the frontal. In reality it appears to be split from the posterior frontoparietals, which are larger and much more broadly in contact than in *U. ornatus*, where there are but one or two on a side. In the latter species the frontal often contacts the parietal, or is separated by an azygous scale; neither condition occurs in *U. bicarinatus*. The frontal is of about the same size in all *U. bicarinatus*, regardless of the number of frontoparietals, ending posteriorly even with about the middle of the median enlarged supraocular.

In the 10 specimens with two or 2.5 pairs of frontoparietals, six have the posterior pair separated from each other—a condition never occurring where but one pair is present. In the other four the medial contact of the anterior pair is very narrow.

Therefore it can be concluded that the division or absence thereof of the frontal is a virtually categorical distinction between *U. ornatus* and *U. bicarinatus*. Somewhat confusing is the fact that the frontal is distinctly shorter in *U. bicarinatus* than in *U. ornatus*. It is quite possible that the large frontoparietals of the former acquired their large size or supernumerality from what was formerly a part of the frontal. Even if so, the division evident in virtually all *U. ornatus* is absent in *U. bicarinatus*.

Lemos-Espinal et al. (2001) erroneously applied the name *U. unicus* (Mittleman) to specimens of *U. bicarinatus* from Batopilas, partly because the locality is the type locality of *U. unicus*, and partly because of Mittleman's (1942) reiteration of its distinctness.

All specimens exceed 40 mm SVL except the series (10591-3, 10597-8) taken 27 September, which included the only juveniles in the collection, 23–33 mm SVL. Some of the females taken 7–10 July were advancedly oviferous.

*Urosaurus ornatus caeruleus* Smith. 9149-65, Cañón de Balleza (26°57′45.7″N, 106°26′9.6″W), 1699 m. These specimens, all adults, include the remarkably beautiful colors of the males of this subspecies, with bright blue streaks and dots on the dorsal surface and a suffusion of blue over much of the dorsal surface of the tail. The basic pattern of broad crossbars, usually split medially, is evident in both sexes. No other subspecies of *U. ornatus* exhibits such blue coloration dorsally.

This locality is the southwesternmost known for the species in Chihuahua.

*Urosaurus ornatus schottii* (Baird). 9889, 9926-81, 9998-10009, mouth of Cañon de la Madera, Sierra de San Luis (31°12′53.4″N, 108°41′51.9″W), 1612 m; 10016-27, 10392-4, 10404, middle of Cañon de la Madera, Sierre de San Luis (31°13′41.1″N, 108°44′5.5″W), 1638 m; 10415-25, middle of Cañón del Oso, Sierra de San Luis (31°16′17.7″N, 108°43′7.0″W), 1661 m; 10430-40, central canyon of Sierra de En Medio, ~1.5 km SE Rancho Bros. Brown (31°8′22.5″N, 108°31′8.2″W), 1455 m; 10527-41, Rancho Santa Marí a-Ojos de Santa Marí a, NW Laguna Santa Marí a (31°9′21.6″N, 107°19′14.0″W), 1200 m.

Dependable criteria for distinguishing the subspecies of *Urosaurus ornatus* in Chihuahua, and elsewhere, have been rather elusive, primarily because they were extensively based on rather variable features of scalation. The number of rows of small scales between the paravertebral rows of enlarged scales, and the relative sizes of the scales in the enlarged paravertebral rows are among those commonly cited as useful taxonomic criteria. Although seemingly objective, they prove in practice to be too subjective for satisfactory discrimination. We find that dorsal pattern and color are by far more reliable than scale characters in analyzing the geographic consistencies that are the hallmark of subspecies.

The present subspecies, inhabiting northwestern and north-central Chihuahua, differs consistently from the much more widespread (in Chihuahua) *U. o. caeruleus* in completely lacking the spectacular dorsal blue streaks, spots and caudal suffusion that characterize the latter subspecies. The two subspecies share, however, the character of dark crossbands on the back, which are lacking in *U. o. schmidti* of the northcentral eastern edge of the state, where its range extends across the Rio Grande from the Big Bend of Texas. In that subspecies the dorsum is light, and the dark markings are less prominent and longitudinal instead of transverse. Its range in Chihuahua comes fairly close to that of *U. o. caeruleus* in the southcentral eastern edge of the state, as pointed out by Lemos-Espinal et al. (2001). Those specimens clearly exhibit the dorsal blue pattern of the subspecies.

Of the 26 specimens taken 17–22 September, 16 were 22–32 mm. SVL. All others were larger.

*Uta stansburiana stejnegeri* Schmidt. 10061-2, 10064-78, Entrada a Pradera de Janos, km 28 Janos-Agua Prieta (31°2′39.2″N, 108°25′50.7″N), 1392 m; 10465-7, Rancho Bros. Brown, middle of Pradera de Janos (31°8′22.5″N, 108°31′8.2″W), 1455 m; 10491-7, 10506, 10508-16, Ojo de Agua, Estación Guzmán, Laguna de Guzmán (31°13′19.7″N,

107°27′8.2″W), 1449 m; 10527-35, Ojos de Santa María, Rancho Santa María, NW Laguna Santa María (31°9′21.6″N, 107°19′14.0″W), 1200 m; 10636-8, Médano de Jaco (28°1′20.7″N, 104°0′58.9″W), 1323 m.

The largest male is 55 mm SVL, the largest female 52 mm.

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# Geographic Distribution of the Andean Lizard *Liolaemus fitzgeraldi* (Squamata, Liolaemidae)

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*Liolaemus fitzgeraldi* Boulenger, 1899, is a small viviparous lizard (60–70 mm snout–vent length [SVL]) that inhabits only high rocky valleys (over 2700 m) of the central Andes of Argentina and Chile. All known populations are restricted to a small geographic area (Figure 1) but data are very scarce in nearby regions because access is very difficult, especially on the eastern side (Mendoza and San Juan provinces, Argentina). In the central Andes of Argentina it is the lizard with highest altitudinal distribution, reaching 4500 m in some areas. Recently some data have been published about the species (Acosta et al., 2000; Avila and Soto, 1997), but the general geographic distribution is still poorly known. Here, I present information about geographic distribution, habitat and activity of *Liolaemus fitzgeraldi*.

## Distribution

*Liolaemus fitzgeraldi* was described from Puente del Inca (Mendoza) by Boulenger (1899). Only a few localities have been published and specimens are scarce in herpetological collections. Cei (1986) mentioned several localities near the type locality: Laguna Los Horcones, Las Cuevas (in Mendoza province), and Cerro Mercedario (in San Juan Province). Avila et al. (1998) extends the known range to the valleys of the El Pachón, Mondaca and Santa Cruz rivers, near the El Pachón copper mine. Additional material was collected in the summer of 1998–1999 in the valley of the Río Castaño (Calingasta Department, San Juan Province), extending the known range 120 km to the north (Acosta et al., 2000). On the western slopes of the Andes, in Chile, several authors have cited *L. fitzgeraldi* for Laguna del Inca and Portillo, near the type locality, or "the Andean zone near Argentina–Chile border" (Donoso-Barros, 1966, 1970; Veloso and Navarro, 1988; Nuñez, 1992; Nuñez and Jaksic, 1992). Avila and Soto (1997) record the species for a region near El Pachón but on the Chilean slopes of Andes (Las Gualtatas, Mina Los Pelambres). In Figure 1, I present all known localities for this species and a probable geographic distribution based on habitat suitability. Several field trips north to the basin of the Río Castaño failed to locate this species, and probably this is the northern limit for *L. fitzgeraldi* at least on the eastern slope. In the south, distributional limits probably are the type locality and adjacent areas in the same valley (Río Mendoza). All present information shows a very small geographic distribution for this species apparently restricted to high valleys of the Mendoza, Los Patos, and Castaño river basins in Argentina and adjacent small sectors in Chile, altogether an area of less than 15000 km$^2$.

## Habitat

*Liolaemus fitzgeraldi* inhabits the ecoregion known as the Southern Andean Steppe. This formation is characterized by areas with extremely abrupt relief with permanent snow, ice caps and glaciers in the highest peaks; suitable habitats with vegetation are found only in the bottoms of valleys and canyons or on some slopes. Soils are rocky, stony or sandy, and loose screes are frequent. In terms of phytogeographical classification (Cabrera, 1976; Cabrera and Willink, 1980), the ecoregion is part of the Altoandina phytogeographical province, which is related floristically to the closely connected Puneña and Patagónica provinces (Cabrera, 1978). Vegetation is very reduced in these areas. At intermediate elevations (2700–3300 m), low shrubs and cushion plants of *Oxalis, Junellia*, *Adesmia, Laretia* and *Azorella* are frequent; this belt has been described as a "región de la llareta," the common name given to dense woody cushions (Roig, 1972). On the highest parts of the mountains (3300–4500 m), specially adapted perennial forbs of genera such as *Senecio*, *Nassauvia*, *Chaetanthera*, *Draba*, *Barneoudia*, *Leucheria*, and *Moschopsis* withstand the extreme wind and cold of the denuded rocky terrain, or the moving scree slopes.

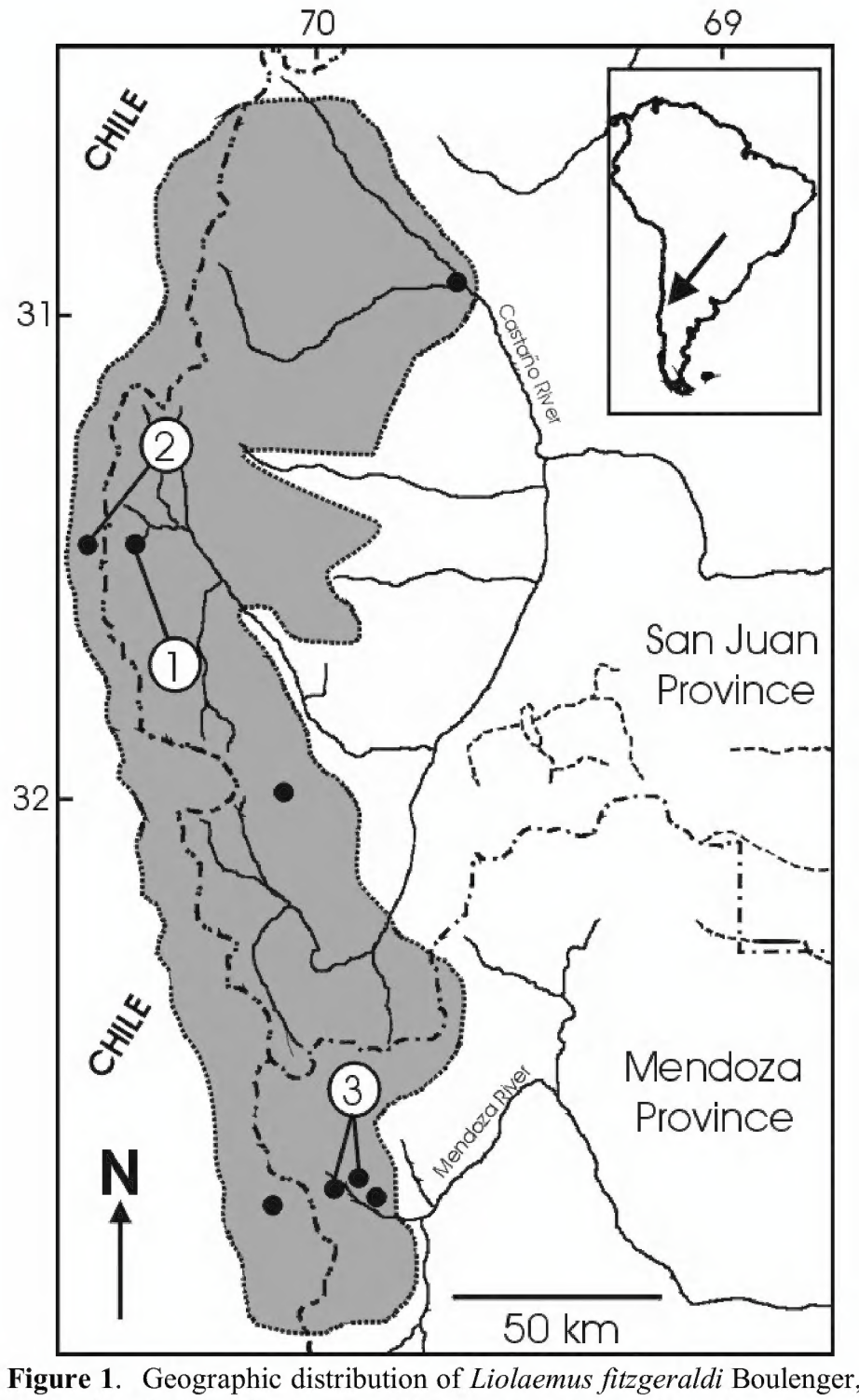


**Figure 1**. Geographic distribution of *Liolaemus fitzgeraldi* Boulenger, 1899. Black dots: known localities mentioned in bibliography or visited in this study; (1) Mina El Pachón, (2) Mina Los Pelambres, (3) Puente del Inca and Laguna Horcones. Gray area: probable geographic distribution inferred from suitable habitats. Inset: South America, black arrow marks the region of study.

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In areas with wet soils and near streams, Cyperaceae and Juncaceae dominate, with some genera forming dense and hard wind-pollinated cushions such as *Oxychloe* and *Patosia* together with beautiful large-flowered forbs such as *Mimulus*, *Euphrasia* and *Senecio* species. Lizards were observed (90%) in close relationships to vegetated areas close to small creeks; only a few were found in bare areas with a soil covered by beds of gravel or small rocks. Apparently, *L. fitzgeraldi* is the only lizard in these areas. No other lizards were observed in sympatry, but at the lower altitudes of distribution along the Río El Pachón, several old eggs from a *Homonota* (Gekkonidae) were found under a rock.

**Activity**

Field work was carried out in an Andean valley near the site Mina El Pachón, department Calingasta, San Juan province, western Argentina, in late November 1996, during the austral summer season. Climate of this area is dry, and very cold, with mean annual temperature of 3.2°C (average maximum, 19°C—average minimum -25°C). Snowstorms and hailstorms can fall any time, and frosts are frequent year-round. Precipitation results from winds off the Pacific, and falls mostly in winter. Additional observations were made in a high Andean canyon (locally called Las Gualtatas), near the site of Mina Los Pelambres, 55 km west Illapel, IV Región Coquimbo, central Chile, in January 1997. This site is separated by 8 km (airline) from the Mina El Pachón site, but is on the opposite (western) slope of the Andes. The elevation at both sites varies between 3100 and 3500 m. Observations of a few individuals were carried out in Puente del Inca and Laguna Horcones, Department Las Heras, Mendoza province, Argentina.

I made observations in the field from 0830 to 1900 h in Mina El Pachón and only for a short time at the other three sites. In Mina El Pachón, lizards were observed, and some individuals collected in the course of three days of fieldwork.

When a lizard was sighted, the hour of activity was recorded and, after a few minutes of observing its behavior, an attempt was made to capture it by hand. At the Mina El Pachón site, a total of 71 individuals was observed in three days. *Liolaemus fitzgeraldi* was active between 0900 and 1900 h and had a unimodal activity pattern, with a peak between 1000 to 1400 h. This activity pattern (including peak and extension) resembles that of other species observed in nearby cold areas of the Andes (*L. vallecurensis*, *L. ruibali*, *L. elongatus*, *L. eleodori*; Avila, unpublished), and varies according to weather conditions and season. When clouds interrupt the sunlight or strong cold winds descend from the peaks for short periods, lizards usually take cover after a few minutes under rocks or in crevices; activity ceases, starting again when the sun reheats the surface of the rocks. A cold wind (10–30 km/h) was almost always recorded in all areas during lizard activity but rock and soil temperatures are high (> 25°C, reaching 47°C) allowing lizard activity. Lizards were usually observed basking on small stones along small creeks with vegetation areas on the edges or areas called "vertientes" and "vegas." Only a few lizards were observed on small outcrops in bare rocky areas far from wet or vegetated areas. Lizards usually retreated to refuges when they sighted the approach of the observer to within 5 m. In seven days of fieldwork no interactions were recorded among the lizards; only basking and foraging behaviors were observed. At the Las Gualtatas site activity began after 1200 h because sunlight reached the observation site only after this hour; lizards basked on small stones along a dirt road but the number of lizards observed was low (seven individuals). Altough several lizards were sighted, only two individuals were observed for any length of time; they were basking on rocks, and their behaviors were similar to the lizards from Mina El Pachón. At both sites *L. fitzgeraldi* is present at very low density.

**Acknowledgments**

I thank Y. Vilina and Geotecnica Consultores (Santiago, Chile) for field trips to Mina El Pachón and Mina Los Pelambres areas. I thank J. C. Acosta for information about Río Castaño lizards. I thank J. Marshall for reading and corrections of the English version of this paper.

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*Bull. Chicago Herp. Soc. 39(1):10-11, 2004*

*Editor's Note: This review by Rick Hudson will also appear in* IGUANA *(Journal of the International Iguana Society)*

## Book Review: *Islands and the Sea: Essays on Herpetological Exploration in the West Indies* edited by Robert W. Henderson and Robert Powell. 2003. 312 pp., 316 photographs, 14 maps. Society for the Study of Amphibians and Reptiles (SSAR), Ithaca, New York. Clothbound, $48.

Available from Breck Bartholomew, SSAR Publications Secretary, P.O. Box 58517, Salt Lake City, UT 84158–0517 (ssar@herplit.com)

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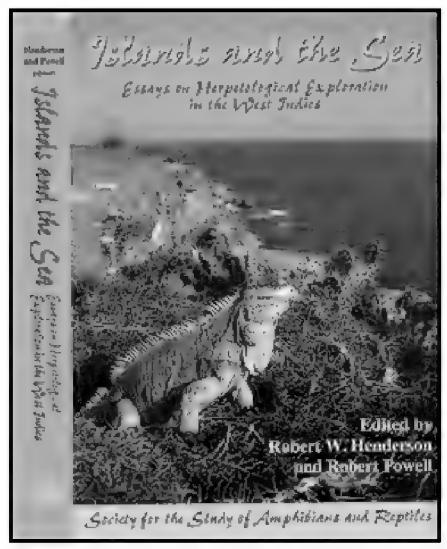
Islands and the Sea
Essays on Herpetological Exploration in the West Indies
Edited by Robert W. Henderson and Robert Powell
Society for the Study of Amphibians and Reptiles

I will admit to having a few regrets in my career, and certainly my decision to decline Bob Powell's invitation to contribute an essay to this volume ranks among the highest. For anyone who has dedicated part of their career to working in the Caribbean, for those with a strong interest in the natural history and biogeography of islands, or if you simply enjoy stories of herpetological exploration and discovery, this is must-read material.

The book is well organized, 300 pages divided into six sections corresponding to the major island groups in the Caribbean: the Greater Antilles (Cuba, Jamaica, Hispaniola and Puerto Rico), the Bahamas and the Lesser Antilles. Regrettably, some islands received short coverage, with only one essay on Puerto Rico and none on the Turks & Caicos. Powell and Henderson's introduction and historical perspectives set the tone for the book and provide the reader with a scholarly overview of many of the early herpetologists and remarkable personalities that did much of the pioneering exploration in the West Indies.

Herpetological research in the West Indies is an intriguing pursuit for many reasons, the first and foremost being a remarkable degree of diversity. Recognized as one of the world's biodiversity hotspots, this is particularly evident with herps. An archipelago containing several hundred islands, ranging from huge landmasses to minute specs of land, the Caribbean is a living laboratory of evolution and speciation. Boasting over 600 species of reptiles and amphibians and a remarkably high rate of endemism, the Caribbean ranks second only to Mesoamerica in terms of reptilian diversity (438 species) and has the highest rate of endemism (84%) of any region in the world. Amphibians, though not as diverse, have a comparable rate of endemism (86%). These impressive figures, combined with elevated numbers for vascular plants and birds, provide ample incentive for urgent conservation measures in these delicate ecosystems—but much of the Caribbean is under intense pressure and, sadly, many of us now devote considerable time and energy trying to save the last vestiges of species ravaged by the effects of man. I often wonder, and I know my colleagues share this sentiment, what it would have been like to set foot on these islands 100–200 years ago when they were still largely pristine.

The essays in this volume cover a broad expanse of time, dating from the 1950s to the present. Those early stories of herpetological fieldwork and discovery (Stan Rand and Sixto Incháustegui in the Dominican Republic, Skip Lazell in the Lesser Antilles, Meg Stewart in Jamaica, and Orlando Garrido in Cuba) take us back to a simpler time when collecting was less complicated (except for travel) and the habitats less damaged. The essays on Cuba, to me, are particularly compelling because they offer vignettes into a world that, due to narrow-minded political agendas, few of us have the opportunity to experience. Perhaps the best read in this series is Alberto Estrada's vivid description of collecting herps while on an expedition to find a remnant population of ivory-billed woodpeckers. This story is both poignant and haunting in that we

are able to glimpse, through a narrow window in time, the last sightings of a species before it slipped quietly into extinction.

The genus *Anolis* has undergone a remarkable degree of speciation in the Caribbean, where it reaches its apex of diversity, providing ample opportunities for fieldwork and research. Nowhere is this more evident than Richard Glor's "Rediscovering the Diversity of Dominican Anoles." Written in a fast-paced narrative, this lively essay recounts the ambitious attempt by him and his colleagues to collect all 40 species of Dominican anoles, a determined mission that literally comes down to the last species on the last day of their trip. An engaging story, this is about as exciting as herpetological reading can get.

Of course, no coverage of the Caribbean herpetofauna would be complete without featuring the prehistoric-looking rock iguanas of the genus *Cyclura* for which the islands are so well known. Undoubtedly the most conspicuous element of the region's reptilian fauna (evidenced by the photograph gracing the dusk jacket), these charismatic lizards have become flagship species for conservation in the West Indies. This book includes chapters describing Cuban iguanas at Guantanamo Bay (Allison Alberts), Andros iguanas (Chuck Knapp) and Allen's Cay iguanas (Jen Valiulis et al.) in the Bahamas, Jamaican iguanas in the Hellshire Hills (Byron Wilson), and Rhinoceros and Ricord's iguanas on Isla Cabritos, Dominican Republic (Sixto Incháustegui). Of particular interest in Sixto's chapter is a rare photo of Michael Carey, a well-known and near legendary (in that he seemed to vanish, dropping out of sight in the 1980s) *Cyclura* biologist, who published some seminal works on the genus through the Florida State Museum. For those of us obsessed with rock iguanas in the late 1970s and '80s, his was some of the most treasured reading material available.

*Iguana delicatissima* is discussed several times in the Lesser Antillean section, nowhere more vividly than in Michel Brueil's account, "In the Footsteps of French Naturalists." He examines the processes (man-made, most harmful and negative, as well as natural) dating back to European colonization that have accounted for some of the perplexing distribution patterns seen in the French West Indies, including that of the genus *Iguana*. His story provides compelling evidence of just how rapidly species' distributions can change over a relatively short period of time, events which should cause us great concern given how this process has been accelerated today. This essay also provides cause for optimism in that it demonstrates the resiliency of many island populations (in this case a population of *I. delicatissima* reduced by half—from an estimated 10,000 to 5,000—by a severe drought) and their ability to persist and rebound from horrendous natural disasters. This chapter also reinforces the reality that the primary threat to biodiversity in the region is introduced exotics.

My complaints on this book are few and only one merits mention. Photo credits are conspicuously absent from most of the book. They are provided inconsistently, some chapters have them but most do not. Maybe this is just a quirk of mine, but I like to know who shot the images. As it turns out, uncredited photos are by the authors of the respective essays but nowhere is this explained. I found very few grammatical errors, and the editing appears to be thorough, the exceptions being a disparity in the number of Cuban anoles (59 by Garrido's count; "about 50" according to George Gorman) and a statement in Hinrich Kaiser's essay that *Eleutherodactylus amplinympha* is Dominica's only endemic vertebrate (it is the island's only endemic frog).

All in all, this is a thoroughly enjoyable read and I highly recommend it. If you are already passionate about Caribbean herpetology and working in the islands, this is required reading. If you have not experienced the sheer joy and exhilaration of exploring some of these remarkable destinations, this book should provide the spark that initiates your conversion. The allure of these islands is powerful, and once experienced, hard to shake off. But then who would want to?

*Bull. Chicago Herp. Soc. 39(1):11-12, 2004*

## Book Review: *True Vipers* by David Mallow, David Ludwig and Göran Nilson 2003. 359 pp., 46 color plates. Krieger Publishing Company, ISBN: 0-89464-877-2 $79.50

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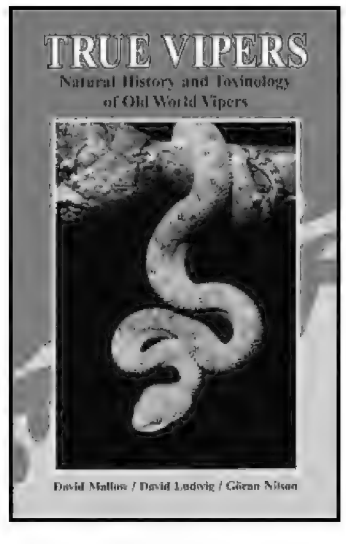


An already vast literature on snakes has been augmented in the last 13 years by three impressive, largely scholarly but nonetheless broadly appealing books on viperids (Gloyd and Conant, 1990; Campbell and Brodie, 1992; Schuett et al., 2002). However, in the latter, only 6 of the 35 chapters specifically address species in the genus *Vipera* and, while the scientific literature on this group is substantial, no thorough single-volume treatment in monograph form of the Old World Viperidae has been forthcoming until now.

*True Vipers* is the first such work. It treats, via individual species accounts, the 14 genera and 85 species of three subfamilies of the Viperidae: Azemiopinae, the enigmatic Fea's viper, *Azemiops feae*, considered by many a precursor to the pit vipers; Causinae, the primitive, colubrid-like night adders; and Viperinae, from which most hail, e.g., the well-known European viper, *Vipera berus*. A concise introduction does a good job of outlining the characteristics of the three subfamilies and of viper biology in general.

Some professionals and laymen alike may have been

"spoiled" on the format of individually contributed papers on ecology, fossil history, reproductive biology or physiology of particular species or genera as seen in aforementioned works (Campbell and Brodie, 1992; Schuett et al, 2002), and of *True Vipers* it could be said that not enough information is presented per account, making the information in some seem paltry when compared to others. In actuality, however, very little is known about the natural history of some species, particularly those from the near east, i.e., the Turkish, Transcaspian and Transcaucasian regions.

The above criticisms aside, the species accounts are well organized under general headings, such as Recognition, Taxonomy and Distribution, Habitat, Food and Feeding, Behavior, Reproduction and Development, and Remarks. A "Bite and Venom" section has separate subheadings: Epidemiology, Yield, Toxicity, Content (comprising biochemical properties), Symptoms and Physiological effects, Hematological Activity, Case Histories and Treatment and Mortality. Under these headings/subheadings, a generic "no information is available" says it all if such is the case. There are no nomenclature history synopses, (treated briefly in narrative form under Taxonomy and Distribution) only the current scientific name, name of the biologist or herpetologist describing the species, year of description, and an actual or suggested common name.

Both amateur and professional herpetologists will note nomenclature changes resulting from current research into phylogenetic relationships among Viperinae. The authors rely on the use of molecular data by Herrmann et al. (1992) to elucidate systematic relationships, particularly within the genus *Vipera*; old or previously proposed generic names have been resurrected; the levantine or blunt-nosed vipers have been placed in the genus *Macrovipera* (proposed in 1927), aptly describing the largest species within the family; *Daboia*, first used in 1842, is reapplied to the Russell's viper (*D. russelii*) and includes the Palestine viper (*D. palaestinae*), based on evidence presented by Obst (1983), Herrmann et al. (1992) and Lenk et al. (2001). The bush vipers (*Atheris*) have two species raised to generic status: *Montatheris hindii* and *Proatheris superciliaris*. Subspecific-level assignments are noticeable as well.

The table of contents is arranged alphabetically by the nine currently recognized genera, and includes subgeneric designations for the genus *Bitis*, i.e., *Bitis*, *Calechidna*, *Macrocerastes*, *Keniabitis* and four subgenera in the genus *Vipera* (*Acridophaga*, *Montivipera*, *Pelias* and *Vipera*). The very comprehensive bibliography encompasses a broad range of both popular and scholarly books and journal articles dealing with venoms and envenomation, snakebite treatment, behavior, diet, ecology and natural history, reproductive biology, captive husbandry and conservation biology. This suggests good command of the literature.

Photos are of inconsistent, though generally good, quality. The photo of the green bush viper, *Atheris squamigera* (Plate 4.8), is noticeably out of focus, and that of the head of *Cerastes cerastes* (Plate 6.2) is exceedingly grainy, but others, such as those of *Bitis caudalis*, *Echis carinatus sochureki*, *Pseudocerastes persicus* (Plate 13.2), *Vipera ammodytes* (Plate 14.2), and *Vipera raddei* were of good to very good overall quality.

The book has some typographic and sentence structure errors, ranging from minor to downright maddening. For example, consider the following sentence from page 276 in the account for *Vipera ursinii*: "Females' tails sometimes tipped with yellow, males generally without."

Book construction is a factor not always of major concern to many, although Krieger's track record in this area is mixed. However, the binding was tight upon initial inspection, and overall the book appears to be well made. What can I say but "time will tell"?

Overall, this is an up-to-date, useful, informative and very accessible book that will appeal to layman and professional alike, and will be a worthwhile addition to any herpetological library.

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# HerPET-POURRI

by Ellin Beltz

**Quote of the month**

CHS Member Steve Barten was quoted in the November 7, 2003, *Chicago Tribune* because he testified against a proposed Lake County, Illinois, ordinance that would have banned a specific list of reptiles. Steve said, "[Reptiles] are wonderful pets for a busy lifestyle. Plus, they don't bark and wake up the neighbors." [from Ray Boldt]

**Illinois list updates**

"State wildlife officials . . . introduced a list of animals . . . propose[d for changes to] . . . the endangered and threatened species list." Final decisions are expected in late February 2004. The Great Plains ratsnake is proposed for upgrade from threatened to endangered while the eastern ribbonsnake was downgraded to threatened from endangered. The eastern narrow-mouthed toad was proposed for addition to the threatened species list. [*Chicago Tribune*, November 22, 2003, from Ray Boldt]

**How to kill and maim frogs**

• Two populations described as the most significant groups of coqui frogs on O'ahu and Kaua'i may have been nearly wiped out by citric acid applied in an effort to eradicate them, according to the *Honolulu Advertiser*. The frogs continue to spread however in landscaping materials and by hitching rides on vehicles and construction equipment. [October 27, 2003, from Ms. G. E. Chow]

• *USA Today* reports that "the growing number of deformities in frogs, toads and salamanders nationwide may be caused by an outbreak of parasitic worms tied to fertilizer use . . . [as shown by] surveys [of] five decades of malformation data from wetlands in California, Colorado, Idaho, Mississippi, Montana, Ohio and Texas. `In some areas, more than 50 percent of the amphibians are deformed' [the researcher] . . . says. . . . Incidents . . . go back at least 40 years but have steadily increased over time. . . ." [December 11, 2003, from Bill Burnett]

**Why ship alligators at all?**

• In two separate incidents, alligators being shipped were found outside their containers. One was found in the baggage hold of an airliner in Newark, New Jersey, and was recaptured by officers in the hold of the Boeing 767. It was shipped from Miami with three other alligators. [Orlando, Florida *Sentinel*, October 28, 2003]

• About two weeks later, in Milwaukee, another gator chewed its way out of its box in a mail sorting facility. The alligator kept trying to bite its way out of the box, even as postal workers tried to tape it shut again. [Little Rock, Arkansas *Democrat-Gazette*, November 16, 2003, both from Bill Burnett] Can you imagine the emergency response call? "Hello we have an alligator terrorizing the post office." "Al-Qaeda terrorizing the post office?" "No, not Al-Qaeda, an Al-Ligator!"

**Persistence pays off**

*USA Today* reports: "A [new family of] burrowing frog found in India represents a missing link to the subcontinent's geologic past. . . . The rotund, 2.75-inch long purple frog [*Nasikabatrachus sahyadri*] is closely related to a frog family . . . in the Seychelles Islands in the Indian Ocean . . . [which] split from India about 65 million years ago. The discovery of a new frog family has been described as a "once in a century experience." [October 21, 2003, from Bill Burnett]

**Man bites snakes**

Absolutely do not ever do anything so stupid as setting the record by putting nine live rattlesnakes tail-first into your mouth. This dubious honor has just been bagged by a man who admits to six rattlesnake bites in his past 34 years of tempting fate. The Guinness Book of World Records sent a photographer. The photo is about as disgusting as you can imagine. [*Miami Herald*, November 19, 2003, from Alan Rigerman; and *Chicago Tribune*, November 23, 2003, from Ray Boldt] One wonders where was PETA for this and where have they been since?

**Dangerous wildlife**

• "Officers rappelled down the side of the [New York City] apartment building [where a 425-pound tiger and a 5-foot alligator were seized], and a sharpshooter fired a tranquilizer dart through a window to subdue the 20-month-old-tiger." Meanwhile the owner of these animals was in the hospital in Philadelphia being treated for lacerations and tiger bites. The animals were sent to wildlife preserves. [*USA Today*, October 6, 2003, from Bill Burnett]

• Probably less fanfare accompanied the arrival of conservation officers at the Avon, Indiana, home of a couple who were keeping a dead African puff adder and a live timber rattlesnake. Conservation officers said both were illegal, live or dead, and confiscated both animals. [*South Bend Tribune*, December 10, 2003, from Garrett Kazmierski]

**Slow news day**

The 73rd running of the terrapins was held in Lepanto, Missouri. The race began when firemen used to put turtles in the street and race them to the other end. Early races took hours, this year's was over in 15 minutes. A spectator speculated, "Maybe it's because it was warm. When it's cooler, it [the race] takes forever." [*Arkansas Democrat Gazette*, October 5, 2003, from Bill Burnett]

**Invasion of the Giant Hungry Treefrogs!**

"Four times larger than native species, the Cuban treefrog is the large chain bookstore of amphibians," said Walter Meshaka, Jr., who wrote a book on the invasion of the frog in Florida. He added "It comes to town and devours the local, smaller competition. Soon, there's no one else left but the invader." It was introduced in Florida from its native Cuba in the 1940s and moved north. It is believed to have migrated north in trucks and other vehicles, clinging to Winnebagos and hiding in shrubbery and ornamental plants. Even Hurricane Andrew helped the invader and not the native treefrogs decimated by the arrival of the Cuban treefrog. Cuban treefrogs breed in puddles, not pristine habitats, so the destruction left by the hurricane was an advantage to them. [Orlando, Florida *Sentinel*, October 19, 2003, from Bill Burnett]

**Invasion of the Giant Hungry Lizards!**

• A resident of Kendall, Florida, wrote the *Miami Herald* asking for help. "I moved into my house in July 2002. About four months ago, a four-foot iguana began using my swimming pool as a toilet. . . . Can Action Line tell me what to do?" Basically they told the lady that the loose iguanas are loose because people who don't understand the life-long commitment to a cute little 6-inch long green iguana have let them go in the mistaken belief that it is better for the animal to be free. And they pointed out, for the umpteenth time, that "releasing pets to the wild helps no one." [*Miami Herald*, November 23, 2003, from Alan Rigerman]

• Condominium owners in Key Biscayne are also complaining about loose iguanas. One said, "You try to chase them, but they live in the tops of palm trees, or in holes in the ground." They are blamed for using swimming pools as toilets, eating expensive landscaping and scaring residents. Colonies of iguanas are reported from a Fort Lauderdale park, upper crust communities in Palm Beach County and islands on the Florida Keys. Iguanas are trashing the plants at the largest botanical garden in the lower 48 states, the Fairchild Tropical Gardens. Iguanas are only one of 40 or so non-native species of reptiles and amphibians which can be found in the Miami area, many at the expense of local amphibians and reptiles. Female iguanas can lay up to 50 eggs in a clutch and sometimes breed twice a year. They have, of course, no natural predators in Florida, a bad attitude and an unlimited supply of food. [*The Chicago Tribune*, August 30, 2003, from Ray Boldt] Unfortunately, so far, no one has convinced them to eat kudzu.

**Lost/stolen and found**

• Three juvenile star tortoises worth $300 to $600 each were stolen from the Honolulu Zoo in early December. Adult star tortoises only grow to 10 inches and the babies were very small and could have been taken away in a pocket, according to authorities. [*Honolulu Advertiser*, December 2, 2003] Police later offered amnesty to anyone who returned the stolen tortoises. The head of the U.S. Fish and Wildlife Service in Hawai'i pointed out that the tortoises could have been taken to any country in the world by plane almost immediately after the theft. [*Honolulu Advertiser*, December 5, 2003] On December 16, the same paper reported that the three star tortoises were found in a happy-meal box inside two brown paper bags outside the Central Union Church in Honolulu. [*Honolulu Advertiser*, December 5, 2003, all from Ms. G. E. Chow]

• Two alligators were stolen from a Texarkana, Arkansas, school biology lab. Thieves also killed several fish and hurt a snake so badly that it may have to be put down. The two largest snakes, a Burmese python and an anaconda, were left undisturbed. One alligator measured about 2 feet long, the other was about 3 feet long. Suspects include previous students and neighborhood residents. A reward has been offered. [Little Rock, Arkansas *Democrat-Gazette*, December 3, 2003, from Bill Burnett]

**As the polar ice melts . . .**

"Canadian marine biologists report that a surprisingly large number of endangered leatherback sea turtles were spotted off Canada's East Coast during the past few months, baffling scientists who didn't think many of the creatures ever ventured that far north." [*Honolulu Advertiser*, December 7, 2003, from Ms. G. E. Chow] While increased numbers of jellyfish have been suggested as a cause, no one so far has suggested that this may be a natural response to slowly warming global temperatures.

**Expensive Obsession**

More than 1000 rescued turtles have passed through the Manhattan loft of an inheritance-funded man who cares for about 80 species of turtle at any given time. Many of his animals came from illegal animal shipments, others from food markets and even zoos. His operation includes more than 100 tanks, kept at about 80°, plus filters, lights, food and flies. The monthly cost is about $20,000 not counting the $300,000 he paid to install all the equipment. His latest effort includes presenting plans for a 50-acre "hydroponic paradise" on a farm in Tewksbury, New Jersey, to the township planning board. [Bourbonnaise, Illinois *Daily Journal*, December 11, 2003, from Donna Moe]

**Two tiny loggerheads going back to sea**

The two tiny sea turtles taken by a Peoria grandmother last year from a Florida beach were flown back to their home state to be released into the Atlantic Ocean. The turtles were a week old and two inches long when taken; they are now about five months old and weigh 10 ounces each. [*Chicago Tribune*, December 4, 2003, from Ray Boldt]

**Habanero a great day**

In an effort to fight against especially smart raccoons on the Boca Raton, Florida, beaches, the naturalist at the local nature center experimented with different hot sauce and hot powder mixes. He found that plain old habanero powder was the most cost effective method of habituating the raccoons to avoid sea turtle nests. In 2003, they lost only 20 of 647 nests, the previous years averaged 50 to 60 nests lost each season. Previous efforts included screens and nest covers which the raccoons quickly subverted. Statistical findings will be presented at the International Sea Turtle Symposium in Costa Rica, February 2004. [*Orlando Sentinel*, November 28, 2003]

**On the flip side**

"A record number of sea turtles have stranded in Florida this year. More than 1,800 stranded turtles mostly loggerheads and green sea turtles, are expected by year's end. That would nearly double the state's 10 year average and exceed the previous high by roughly 500. . . . " Officials point out that the number of recorded strandings can only represent some fraction of the total loss to the population. [Leesburg, Florida *Daily Commercial*, December 9, 2003, from Bill Burnett]

**Holiday cards**

A big "thank you" for cards to Ms. G. E. Chow ("Mele Kalikimaka"), Marybeth Trilling and my oldest and most steadfast contributor (and Christmas card sender) of the past 18 years, Bill Burnett, wearing a great Gecko Hawaii shirt.

**And lest we "frog-et"**

It makes me really hoppy to once again thank my contributors, in approximate order of appearance in 2003: Bill Burnett, Bill

Burnett's mom, Alan Rigerman, Claus Sutor, Ray Boldt, Eloise Beltz-Decker (becomes Mason midyear), Mrs. P. L. Beltz, Ken Mierzwa, Mike Dloogatch, Garrett Kazmierski, J. N. Schoenfelder, Ms. G. E. Chow, Paul Breese, J. N. Stuart, Allen Salzberg, James Harding, Wes von Papineäu, Desiree Wong, Raymond Hoser, Karen Furnweger, Marty Marcus, Brad Norman, Rob Streit, Ken Sumer, Aiken Reed II, Marco Mendez, Marybeth Trilling and Donna Moe. Without them, there just wouldn't be a column here. So if you're looking for a New Year's resolution to which you can really stick, plan to send me all the cute articles about herps that show up in the papers and magazines you read. Just clip the whole page - there's no need to trim, newspaper is incredibly cheap to mail. Fold and put in the biggest envelopes you feel comfortable using (less folding/unfolding) and mail to me: Ellin Beltz, POB 1125, Ferndale, CA 95536-1125.

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## Unofficial Minutes of the CHS Board Meeting, December 12, 2003

Lori King called the meeting to order at 7:39 P.M. Board members Mike Dloogatch, Jim Hoffman, Lori King, Linda Malawy and Jenny Vollman were present. This did not constitute a quorum.

**Officers' Reports**

Recording Secretary: Mike Dloogatch read Zoe Magierek's minutes of the November 14 board meeting. Corrections were made and the minutes were accepted.

Treasurer: Jim Hoffman presented an income statement for November 2003 and a balance sheet as of 30 November 2003. In response to questions raised at the November board meeting, Jim had sent an E-mail to all board members stating that income from the Notebaert shows appeared under the category "Speakers' Bureau," and that the ReptileFest payment to Bob Bavirsha appeared as a "Photo Expense." Lori said that the CHS has not yet been paid by the city for our appearance at the Flower Show at Navy Pier early this year. There was a discussion about the categories under which certain income and expenses should logically appear.

Membership Secretary: Mike Dloogatch noted that net CHS membership has increased slightly for each of the last three monthly mailings. The November mailing was to 733.

Vice-President: Linda Malawy announced that Dr. Dale Denardo of Arizona State University would speak on Namibia at the December 17 general meeting.

**Committee Reports**

ReptileFest: Three sponsors are helping to underwrite the 2004 'Fest: ZooMed, Timberline and Chicago Reptile House.

Grants: Mike Dloogatch said that so far no applications for 2004 CHS grants had been received through the mail.

Shows: The next show at the Notebaert will be January 3–4. Tentatively we will show at the Notebaert on the first weekend of each month in 2004, except in case of obvious conflicts like ReptileFest in April.

Adoptions: Linda Malawy had nothing special to report on adoptions, except to say that unwanted alligators are again building up to the point where another load will need to be transported to a Florida facility.

General Meeting Sales:

Books: Joan Moore has informed the board that she will no longer be selling books at meetings.

Trout Chow and CHS merchandise: Trout Chow sales have not been a success and Jack will probably discontinue them.

Conservation: Lori King said that the CHS Conservation Committee is proud to have raised sufficient funds to supply PIT tags for the current large crop of captive hatched Grand Cayman blue iguanas.

**Old Business**

State Reptile/Amphibian: Ron Humbert has been spearheading the State Amphibian effort; Steve Sullivan has been working for a State Reptile. Ron will be meeting with two state legislators in the near future. Schoolchildren will soon be voting for their favorite of the 12 candidate species.

**New Business**

Linda Malawy has arranged for a donation of 100 or more new, all-glass, 10-gallon aquariums. She would like to use these for the "Illinois Herps" display at ReptileFest. She asked for and received volunteers to help store these tanks. Ron Humbert volunteered to help Linda transport them from Milwaukee. Linda will try to get a rental truck donated for this purpose, but the consensus was that she should proceed even if she had to rent a vehicle.

**Ideas and Suggestions**

Betsy Davis will get a card to go with a cash gift for the security guard at North Park Village, who has gone out of his way for us.

Based on the favorable reaction to his quiz on native herps at the November general meeting, Ron Humbert wants to give a series of short programs on Illinois herps at coming meetings. All agreed that this would be a good idea.

**Round Table**

Lori informed the board that the Metropolitan Builders Association of Greater Milwaukee wants to convince the Wisconsin DNR to remove Butler's gartersnake from the state's threatened species list. Lori plans to watch this situation closely.

Lori expressed her thanks to all members of the 2003 CHS Board of Directors. Ron Humbert in turn thanked Lori for her strong leadership this past year.

The meeting adjourned at approximately 9:30 P.M.
*Respectfully submitted by Mike Dloogatch for Recording Secretary Zoe Magierek.*

# Herpetology 2004

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

## AURAL ABSCESSES IN WILD EASTERN BOX TURTLES

C. J. Willer et al. [2003, J. Herpetological Medicine and Surgery 13(2):4-9] note that aural abscesses are a common clinical finding in wild eastern box turtles, *Terrapene carolina carolina*. This study, utilizing current and retrospective data, was initiated to characterize this disease syndrome further. Thirty free-ranging eastern box turtles were admitted over a four-year period to the North Carolina State University College of Veterinary Medicine's Turtle Rescue Team for aural abscesses. These patients presented for either unilateral or bilateral swelling of the tympanic membrane. Overall body condition ranged from poor to excellent. Bony changes resulting from the aural swelling were seen grossly and radiographically in some turtles. Cultures revealed multiple microbial agents and the isolates varied between turtles. In general, the isolates were Gram-negative opportunistic bacteria. Of the twenty-three cultures obtained, the most commonly isolated organisms were *Proteus vulgaris* (5), *Escherichia coli* (5) and *Aeromonas hydrophila* (5). Sensitivity results showed resistance to multiple antimicrobial agents. Many of the turtles presented with clinical signs of ocular and respiratory infections in addition to the aural abscesses, or developed similar signs after admission. The results of this study will help direct a management plan for future cases of aural abscesses in eastern box turtles.

## VENEZUELAN CORAL SNAKES

C. L. Barrio-Amorós and Daniel Calcaño [2003, Herpetozoa 16(1/2):73-78] report the first voucher specimens of *Micrurus lemniscatus* Linnaeus, 1758, from western Venezuela. The specimens are compared with different subspecies of *M. lemniscatus* meristically and by color pattern, as well as with similar species like *M. filiformis* (Günther, 1859) and *M. isozonus* (Cope, 1860). The Barinitas region in the Andean piedmont of western Venezuela is one of the richest places known in terms of *Micrurus* species diversity. Comments on some little known coral snakes are provided, including a new maximum size record for *M. isozonus* and a low altitude record for *M. mipartitus anomalus* (Boulenger, 1896).

## SOUTH CHINA SEA ISLAND HERPETOFAUNAS

T. M. Leong et al. [2003, Hamadryad 27(2):165-174] compiled from reviews of literature and museum specimens a comprehensive checklist of the reptilian and amphibian fauna for the South China Sea island groups of the Anambas and Natunas. As of present, 23 reptiles and seven amphibians have been recorded from the Anambas, while 63 reptiles and 27 amphibians were recorded from the Natunas. Color photographs of live specimens of two anurans endemic to the island of Pulau Natuna Besar (*Leptobrachella natunae* and *Kalophrynus bunguranus*) are presented here for the first time.

## TOE-CLIPPING EFFECTS

P. A. Borges-Landáez and R. Shine [2003, J. Herpetology 37(3):592-595] note that toe-clipping has been widely used for individual identification of amphibians and reptiles. It is costless and easy to apply and read. An animal's locomotor speed may affect its ability to acquire food, to avoid predation, and to achieve a high social status. Thus, it is of interest to determine whether toe-clipping affects the running speed of lizards. Wild-caught eastern water skinks (*Eulamprus quoyii*) were run in a racetrack in three consecutive sessions. In the first session, all animals were run with their toes intact. Half of the animals had their toes clipped between the first and second session, whereas the other half were toe-clipped between the second and the third session. Neither average nor maximum running speeds were affected by toe-clipping.

## CAIMAN MOVEMENTS IN THE PANTANAL

Z. Campos et al. [2003, Copeia 2003(3):628-634] note that coordinated terrestrial movement has not previously been reported in crocodilians. However, between 1989 and 1999, 94% of 525 *Caiman crocodilus yacare* found on land in the Pantanal were in coordinated groups ($n = 73$) walking head to tail and forming nearly straight lines. Caimans left pools and initiated terrestrial movements spontaneously and in response to disturbance by researchers and hunters. The sex ratio of the groups was biased toward males ($0.8 \pm 0.24$) and was similar to that found in aquatic habitats in the study area. However, two groups consisted only of females. When caimans left pools subjected to disturbances, such as hunting and capture for research, they walked head to tail in lines. Caimans that left pools in response to disturbance buried in mud near pools or in leaf litter in forest.

## PREY-HANDLING IN HATCHLING SNAKES

R. S. Mehta [2003, Herpetologica 59(4):469-474] studied in the laboratory the effects of prey size on prey-handling behavior for 60 ingestively naive hatchling *Elaphe helena*. Hatchlings were randomly assigned to one of three diet categories in which prey (*Mus musculus*) varied by relative mass differences of 20–35%, 40–46%, or 50–59% of an individual snake's own body mass. The effects of prey size on capture position, direction of ingestion, condition of prey at ingestion (dead/alive), feeding duration, and prey-handling tactic were observed and recorded for each feeding episode. Results indicated that prey size significantly affected the prey-handling behavior of hatchling *E. helena*. In the largest relative mass category, hatchlings captured prey by the anterior end more often than in the smaller two relative mass categories. Prey from the smallest relative mass category were simply seized whereas, in the medium and large categories, pinion and constriction behaviors were observed. Time to subdue and ingest the prey item increased with prey size categories.

## SHELTER USE BY GILA MONSTERS

D. D. Beck and R. D. Jennings [2003, Herpetological Monographs 17:111-129] note that many desert organisms cope with extreme and variable conditions by retreating to sub-surface refugia, yet little is known of the patterns of refuge use by most desert inhabitants. The authors investigated shelter use by the Gila monster, *Heloderma suspectum*, an ectotherm closely tied to sub-surface refugia in a strongly seasonal desert environment. They addressed hypotheses that ectotherms may use habitats based on availability of shelters, select shelters based on particular cues, respond to seasonal variation in refuge characteristics, and show fidelity to specific retreats. Using radiotelemetry, they monitored microhabitat use by 8–10 Gila monsters for six years, recording timing, frequency, and duration of visit to over 250 specific shelters. Transects were used to assess shelter availability, structural features of all shelters were recorded, and dataloggers were used to monitor seasonal changes in microenvironments for periods up to two years. Shelters, and the habitats where they occurred, were not chosen by Gila monsters at random. *Heloderma* spent more time in areas where a higher density of potential shelters was available, and selected shelters based on rockiness, slope and entrance aspect, depth, humidity and temperature. The lizards showed longer residence times and greater fidelity to shelters used during extreme periods (e.g., winter) and these patterns were paralleled by seasonal changes in the characteristics of shelters chosen. Winter shelters tended to be south-facing, rockier, deeper and warmer than those used in other seasons, whereas dry-summer shelters were more soil-like in composition, cooler, and more humid. Gila monsters showed strong fidelity to specific shelters, some of which were used by two or more lizards, sometimes concurrently. Seasonal variation in use of "social" shelters coincided with annual cycles of intraspecific behaviors and reproduction. The study results underscore the importance of subsurface refugia in the ecology of a sedentary desert ectotherm. Because many other ectotherms also spend significant periods sequestered in below-ground retreats, it is surprising that ecologists have not more extensively investigated this phenomenon. Understanding the cues used by desert ectotherms to choose refuge-sites, the spatial and temporal variability in refuge characteristics, and the fidelity shown to particular retreats, may help explain patterns of habitat selection, behavior, distribution and abundance.

## CROCODILE LIZARDS FOUND IN VIETNAM

L. K. Quyet and T. Ziegler [2003, Hamadryad 27(2):193-199] note that since its discovery in 1928, the monotypic Chinese crocodile lizard, *Shinisaurus crocodilurus* Ahl, 1930, has been known only from a few populations from Guangxi Province in southeastern China. The authors present observations from the first known population of this genus outside of China. In May 2002, the species was discovered in the evergreen forests of Yen Tu Nature Reserve, Quang Ninh Province, northeastern Vietnam, at moderate elevations. This population is located ca. 80 km from the Vietnam–China border, about 500 km from the nearest population recorded in China. Data on the natural history of the Vietnamese *Shinisaurus* are provided and the conservation importance of this population discussed.

## VENOM OF THE MIDGET FADED RATTLESNAKE

S. P. Mackessy et al. [2003, Copeia 2003(4):769-782] note that ontogenetic shifts in diet are common for snakes, and such shifts in diet for venomous snakes may be associated with changes in venom composition. This study investigated whether an ontogenetic shift in diet and venom composition, as observed for *Crotalus oreganus helleri* and *Crotalus oreganus oreganus*, occurs in *Crotalus oreganus concolor*. Like *C. o. helleri* and *C. o. oreganus*, and at similar body sizes, *C. o. concolor* show an ontogenetic shift in diet. Juvenile snakes primarily feed on small lizards, whereas adults typically consume small rodents. However, *C. o. concolor* do not show the same pattern of venom ontogeny as do *C. o. helleri* and *C. o. oreganus*. Because of the presence of a phospholipase $A_2$-based β-neurotoxin (concolor toxin) and several myotoxins, *C. o. concolor* venom is particularly toxic, but mouse $LD_{50}$ assays demonstrated no significant difference in toxicity between adult (0.38 µg/g) and juvenile (0.45 µg/g) venoms. Metalloprotease activity (correlated with extensive tissue damage and prey predigestion) was extremely low in both juvenile and adult venoms. Levels of peptide myotoxins and several serine proteases that interfere with hemostasis (specifically thrombin-like and plasmin-like activities) showed a positive correlation with size. Human envenomations recorded during this study showed symptoms consistent with biochemical analyses, with numbness associated with the bite, coagulation abnormalities and essentially no tissue damage. Results suggest that the occurrence of potent neurotoxic component(s) in a venom minimizes predigestive components (metalloproteases). Further, concurrence of these functional components in the venom of an individual may be selected against, and highly toxic venom in both juvenile and adult *C. o. concolor* may represent a form of venom paedomorphosis.

## DISTRIBUTION OF SALAMANDER LARVAE

R. C. Bruce [2003, Herpetologica 59(3):301-310] notes that the stream-type larval forms of the hemidactyliine plethodontid salamanders *Gyrinophilus porphyriticus*, *Pseudotriton montanus* and *P. ruber* show subtle interspecific variation in pigmentation and body proportions. The author tested the hypothesis that morphological divergence is correlated with adaptive diversification in habitat selection, by evaluating the ecological distribution and habitat affinities of larvae of these species in the Chattooga River watershed of the southern Blue Ridge Physiographic Province. *Pseudotriton montanus* was observed in a single habitat, a bottomland swamp in the floodplain of a third-order stream. Both *G. porphyriticus* and *P. ruber* showed an affinity for springs, although the latter had a wider distribution in higher-order streams and small ponds. In springs, larvae of *G. porphyriticus* showed a greater preference for rheocrenes and a proclivity for burrowing in the coarse substrates of these habitats; in contrast, larvae of *P. ruber* were more common in limnocrenes and helocrenes, which have finer substrates, and were usually observed among decaying leaves or beneath surface rocks and logs. The habitat associations and behaviors documented reinforce earlier interpretations of the adaptive significance of morphometric variation among larvae of the three species.

## SALAMANDER HABITAT USE

S. D. Faccio [2003, J. Herpetology 37(3):479-489] states that in New England, temporary pool-breeding salamanders inhabit terrestrial forested habitats for the majority of the year. Wetland regulations and forestry Best Management Practices rarely consider the upland areas surrounding breeding pools for protection. Those that do, generally establish buffer zones that are insufficient to protect salamander populations. A better understanding of the area requirements and upland habitat preferences of pool-breeding salamanders is needed to develop biologically relevant buffers for conservation. Radiotelemetry was used to investigate the postbreeding emigration and terrestrial habitat use of two syntopic mole salamander species. Sixteen adult salamanders (eight *Ambystoma jeffersonianum* and eight *A. maculatum*) were radiotracked for a mean of 164 days (SE = 5.1). Eleven individuals were tracked to overwintering sites (five *A. jeffersonianum*, and six *A. maculatum*). Emigration distances from breeding pool edge varied widely (range = 30–219 m) with a mean of 112.8 m (SE = 19.9) for both species combined. Combining data from this and other studies, a salamander "life zone" that would encompass 95% of the population was calculated, resulting in an area extending 175 m from a pool's edge. Two types of small mammal burrows (deep vertical tunnels, and highly branched horizontal tunnels) were used almost exclusively as terrestrial refuges. In general, Jefferson and spotted salamanders used well-shaded, deciduous forest stands with abundant logs and stumps. Their habitat use also showed a strong association with vertical mammal tunnels, suggesting that this resource may be limiting. Biologically defined salamander life zones should be identified as critical wildlife habitat and considered in forest management strategies.

## CHYTRIDIOMYCOSIS IN TIGER SALAMANDERS

E. W. Davidson et al. [2003, Copeia 2003(3):601-607] report that a chytrid fungus, *Batrachochytrium dendrobatidis*, was found in salamanders, *Ambystoma tigrinum stebbinsi*, collected in southern Arizona. The chytrid was isolated and cultured, and Koch's postulates were satisfied by infection of metamorphosed salamanders with pure culture and subsequent reisolation from these salamanders. This salamander strain and a strain isolated from lowland leopard frogs in Arizona, *Rana yavapaiensis*, were used to infect metamorphosed *A. tigrinum*, *R. yavapaiensis* and *R. boylii*. All three species became infected, but none of the infected salamanders died within 60 days, and mortality of infected frogs did not differ significantly from controls, although sample size was small. Chytrid infection could not be detected by light histology in most of the infected frogs and one of the infected salamanders 60 days after infection. To date, there are three records of chytridiomycosis in salamanders on websites; this case is the first complete report of occurrence and pathology of chytridiomycosis in field-collected North American salamanders. These results also demonstrate that chytridiomycosis does not always lead to mortality. Individuals within a species vary in susceptibility to infection, animals appear to recover from the infection, and syntopic salamanders and frogs may act as reciprocal pathogen reservoirs for chytrid infections.

## LARVAL ECOLOGY OF AN AMPHIUMA

M. S. Gunzburger [2003, Herpetologica 59(4):459-468] investigated the early life history of the salamander *Amphiuma means*. Although adult *A. means* are entirely aquatic, eggs are often found above water levels in areas from which water has receded. A series of experiments was performed using three egg clutches of *A. means* collected from organic sediment at the bottom of a dried lake in northern Florida. The first experiment demonstrated that eggs of *A. means* hatch in response to inundation with water, and aquatic larvae completely resorbed their gills in about 2 weeks. Eggs that hatched at later dates produced larger hatchlings in all three clutches and larger juveniles at metamorphosis in two clutches. A second experiment indicated that hatchlings can survive, on average, over 125 d without feeding by using resources from their yolk reserves. The third experiment showed that eggs are capable of surviving an average of 110 d (SD = 47.2 d) on moist substrate without hatching. Some eggs hatched onto the substrate without inundation, and resulting hatchlings could survive on this substrate without inundation for an average of 21 d (SD = 26.1 d). Five eggs produced hatchlings without gills during this experiment, suggesting that this species may bypass the larval period completely if eggs are not inundated. These experiments suggest that the eggs of *A. means* may be specialized for development in terrestrial nest chambers. Information on development and larval ecology of *A. means* from this study can be applied to future evaluations of the evolutionary relationships of salamander families.

## CHUCKWALLA CONSPICUOUSNESS

M. A. Kwiatkowski [2003, Copeia 2003(3):481-492] notes that the appearance of an organism's color pattern is a function of numerous variables, including the background on which the organism is observed. Hence, color patterns that appear similar or conspicuous when taken out of context, may, in reality, appear quite different when viewed in a natural setting. The author investigated the relative conspicuousness of chuckwallas, *Sauromalus obesus* (= *ater*) among three populations in which males differ in their coloration. The color pattern of male and female chuckwallas was compared to the background color of rocks on which individuals were observed basking or displaying. Data were also collected on predation pressures and the thermal environment to see whether there was any association with conspicuousness. Male tail and body conspicuousness, and female tail conspicuousness, varied among the three populations. In all populations, male tail color was more conspicuous than male body color and, within all populations, males were more conspicuous than females. However, males and females were not equally conspicuous among populations; females from one population were as conspicuous as males from a different population. Conspicuousness appeared to be negatively associated with predation pressures. Little evidence was found to suggest that thermal considerations influenced color variation among the three populations. The role of chuckwalla conspicuousness is also discussed in the context of sexual selection.

# Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. P.O. Box 85, Alpine TX 79831. Call us **toll-free** at (800) 720-0076 or visit our website: http://www.themousefactory.com.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: herp books. *The Last of the Ruling Reptiles* by Wilfred T. Neill, 1971, Columbia University Press, 486 pp., 162 figs. (b&w photos, range maps), extensive bibliography, comprehensive reference, DJ with mylar cover, hardbound, excellent condition, $98; *Eyelids of Morning* by Alistair Graham and Peter Beard, 1990, 260 oversize (9 × 12") pp., many b&w and color photos, interesting story of 3 years of research on Nile crocodiles in Kenya's Lake Rudolf and their relationship to the Turkana people, softbound, $23; *Records of the American-Australian Scientific Expedition to Arnhem Land - Vol. 4 - Zoology*, 1964, Melbourne University Press, 533 pp., b&w plates, DJ, hardbound, 35 pp. on reptiles and amphibians, $100; *Forty Queensland Lizards* by Floyd Dale, 1973, 64 pp., drawings of each species, range maps, softbound, $15. All books in excellent condition. $2.50 postage and handling for orders $25 and under; free for orders over $25. Send E-mail address for complete list. William R. Turner, 7395 S. Downing Circle West, Littleton, CO 80122, (303) 795-5128. E-mail: toursbyturner@aol.com.

Herp Tours: Why pay more? Travel with the International Fauna Society, a 501 (c)3 not-for-profit organization, and experience the Costa Rican rainforest! Stay at the beautiful Esquinas Rainforest Lodge in the untouched herpetological paradise that is Piedras Blancas National Park. Meet new friends, relax in the naturally-filtered swimming pool or in the lush, fauna-filled tropical garden. Discounts for IFS and Chicago Herp Society members. For details, visit The International Fauna Society website at www.faunasociety.org or E-mail: joea@faunasociety.org.

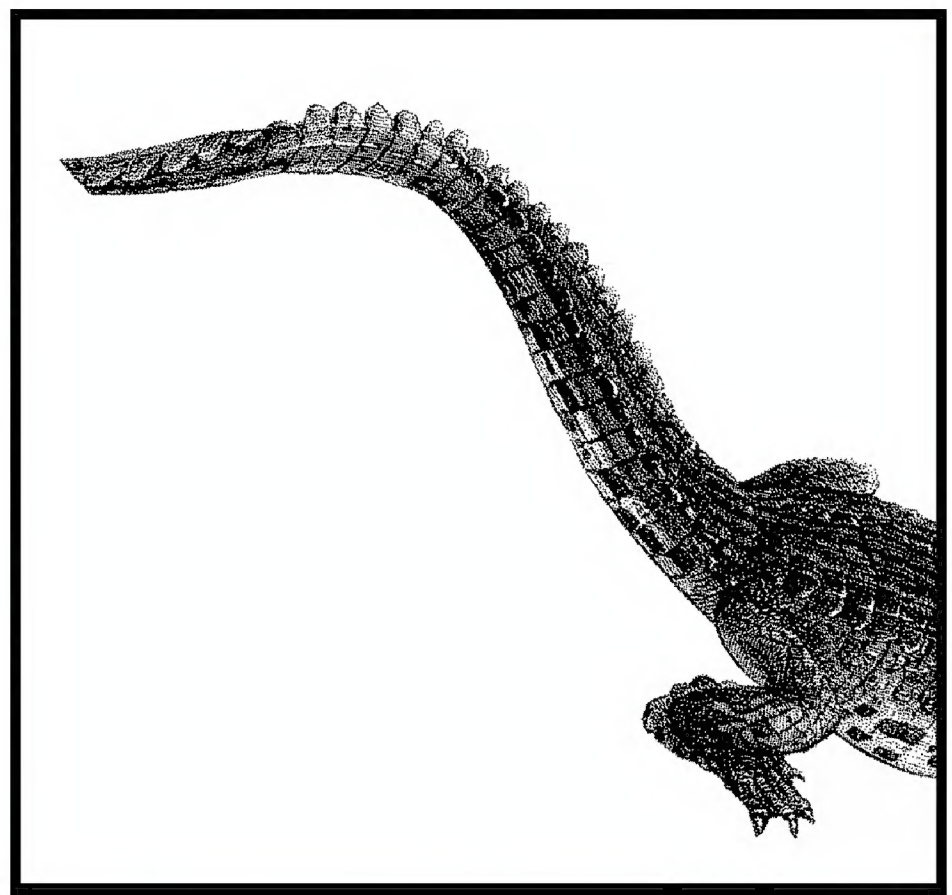
Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: < http://www.bluechameleon.org> , E-mail: bill@bluechameleon.org, or call (239) 728-2390.

Herp tours: Experience the Amazon! Road-ride in Costa Rica! See and photograph herps where they live, have fun doing it, make good friends and contacts, and best of all . . . **relax!** From wildlife tours to adventure travel, **GreenTracks, Inc.** offers the best trips led by internationally acclaimed herpers and naturalists. See our website < http://www.greentracks.com> or call (800) 9-MONKEY. E-mail: greentracks@frontier.net.

Internship: The Kentucky Reptile Zoo, a nonprofit organization, seeks student interns for the 2004 spring, summer and fall seasons. The zoo is an educational exhibit, reptile breeding and venom research facility located near Kentucky's Red River Gorge and Natural Bridge State Park. The intern will assist in the captive maintenance of the zoo's reptile collection, collect admissions to the exhibit, give interpretive talks and interact with the public, assist with educational outreach programs, and perform other duties as assigned. In addition, the intern will be responsible for the completion of at least one research project related to the field of herpetology. The intern will not be involved in the handling of any venomous reptiles. Desirable qualifications include a willingness to handle snakes and other reptiles on a daily basis, ability to communicate effectively with people, writing skills, orientation to details, and self-motivation. The intern will be required to work both Saturday and Sunday, with days off during the week. Interns are required to be either current college students or recent graduates; students majoring in the biological or natural sciences are preferred. Former interns have arranged for academic credit with their colleges or universities. Interns have also been successful in finding zookeeper positions, with a hire rate of over 95%! Benefits include experience with the most extensive and diverse collection of snakes in the U.S., housing and $55/week to cover expenses. Personal transportation is recommended. A valid driver's license is required. Starting dates are flexible, but a minimum commitment of 3 months covering spring (March–May), summer (June–August), or fall ( September–November) is required. To apply send a cover letter, resume, transcript, and at least 2 (preferably 3) references to: Kristen Wiley, Internship Coordinator, Kentucky Reptile Zoo, 200 L&E Railroad, Slade KY 40376. Or E-mail: kyreptil@mailhost.mis.net.

Pet Sitting: In-home care for all your pets' needs. Specializing in reptiles, amphibians, birds, fish, dogs, cats. . . . Very passionate in herpetology, experienced vet technician at an exotic animal hospital, aquarium technician for over 10 years. Great references available. Call Lisa Collins to book your special care requests, (847) 644-3681. [Northshore based]

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com.



## TRAINING WORKSHOPS FOR THE CHICAGO WILDERNESS CALLING FROG SURVEY

These workshops are for both beginning and experienced monitors. We'll teach and review the calls of our 13 species of frogs and toads, help new monitors find survey sites, and discuss the monitoring protocol. Experienced monitors are encouraged to attend, in order to learn any protocol changes, obtain data sheets, review frog calls and share lessons learned from last year.

Jan 14 (Wed), 6:30–8:30 P.M., Blackwell Forest Preserve (**DuPage County**), 29 W 220 Mack Road in West Chicago. From Route 59, travel east on Mack Road for 0.6 miles. Turn north into the the Grounds and Resources Complex. Pass through the chain link gate and gas tank area. Park in front of the center building. Follow the signs to the workshop at the rear of this building. Please pre-register with Tracey Smith at (630) 933-7681.

Feb 3 (Tues), 6:30–8:00 P.M., Ryerson Conservation Area Visitors Center (**Lake County, IL**). Located about a mile south of Half Day Road, between I-94 and Hwy 45. Head west on Half Day road from I-94, then turn south on Riverwoods Road and look for the entrance on your right.

Feb 7 (Sat), 10:00 A.M. to noon, Sugar Creek Administrative Building of the Forest Preserve District (**Will County**). At 17540 W. Laraway Road in Joliet. Take Rte 80 to Briggs, head south on Briggs (turns into 52-S), then west on Laraway Road, and look to the north side of the street after about a half mile.

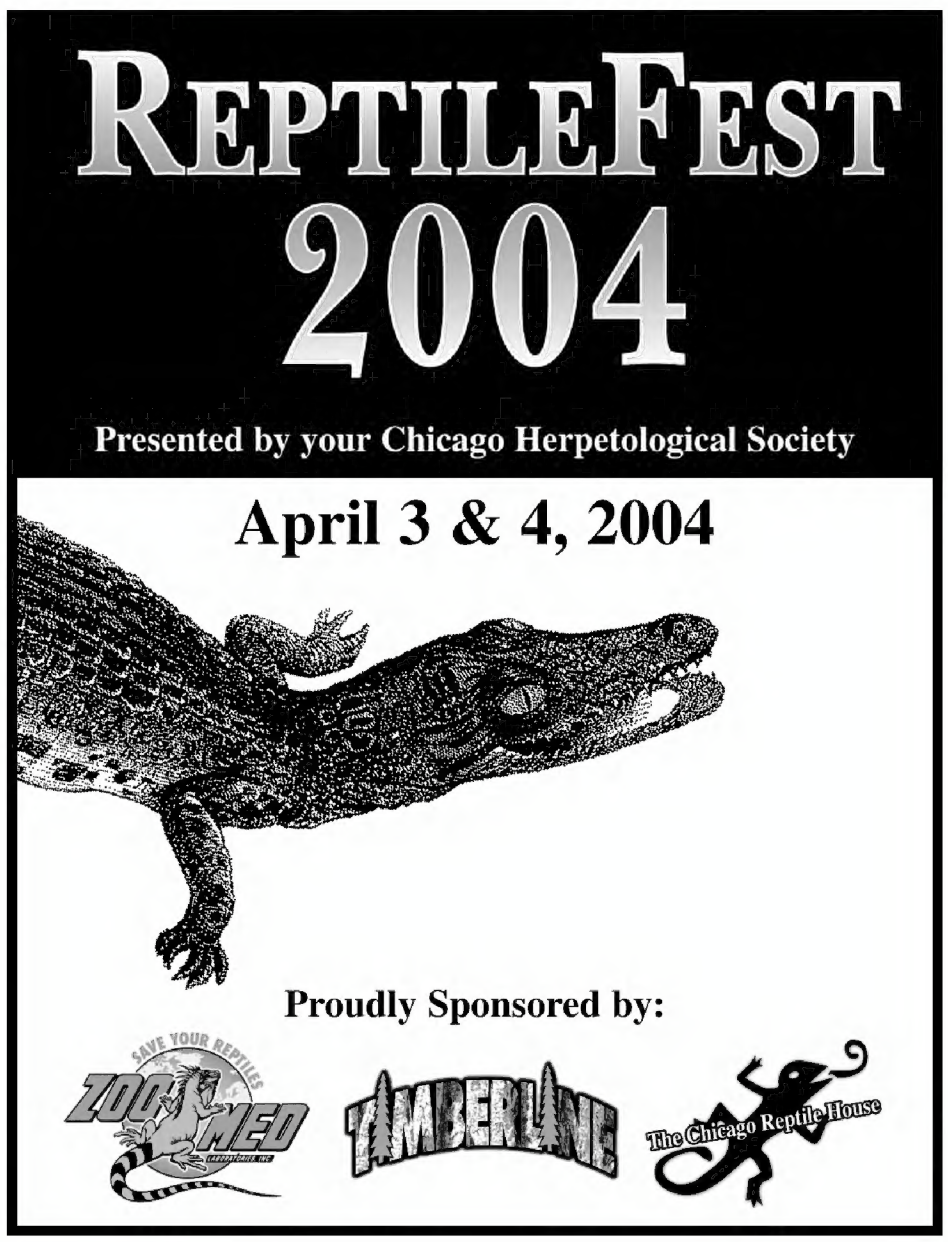
Feb 9 (Mon), 6:30–8:00 P.M., St. Joseph College, Renssalaer, IN (**Jasper County**). On Hwy 231 South, just off of Interstate 65. Meet in Courtney Auditorium in the Core Building.

Feb 14 (Sat), 9:00 A.M. to noon, Pottawatomie Park, St. Charles (**Kane County**). Coming west on Route 64 (called Main Street in St. Charles), turn north at 2nd Ave., two blocks before the river. Second Avenue ends at Pottawatomie Park –head west and go to the large building down by the river.

Feb 17 (Tues), 7:00–9:00 P.M., Prairieview Education Center, Crystal Lake (**McHenry County**). At 2112 Behan Road, just south of Hwy 176, between Hwy 31 and the Fox River. Heading NE from Crystal Lake on Hwy 176, turn right on Behan Rd after passing Valley View/Silver Lake Rd, and take another right at the end of the road. Please pre-register with Sara Denham, at sdenham@mccdistrict.org; (815) 728-8307.

Feb 24 (Tues), 6:30–8:00 P.M., Edgebrook Community Center (**Cook County**). Located at 6100 N. Central on Chicago's northwest side. This workshop is co-sponsored by the Forest Preserve District of Cook County and the Chicago Park District.

March 4 (Thurs), 7:00–8:30 P.M., Valparaiso Public Library, (**Porter County**). Located at 103 Jefferson Street in Valparaiso, IN. Workshop will be in Meeting Room A. Contact Alan Resetar with questions, (219) 465-7231.



## UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, January 28, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Dr. R. Kathryn Vaughan**, of Texas A&M University, will speak on threadsnakes, genus *Leptotyphlops*. Dr. Vaughan will discuss the fascinating natural history and taxonomy of these tiny, burrowing, blind snakes, with particular reference to the Plains threadsnake, *Leptotyphlops dulcis*, of the southwestern U.S. and Mexico.

The regular monthly meetings of the Chicago Herpetological Society now take place at Chicago' s newest museum—the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

### Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the February 13 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot behind the building.

### The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: http://www.geocities.com/~chicagoturtle.

## CHS AWARDS PRESENTATION

Each year the Chicago Herpetological Society recognizes a few select members for their service to the organization. At the December 17 meeting awards were presented in four categories. **Jack Schoenfelder** received the CHS Lifetime Service Award. This special award is given only infrequently to a person chosen by the Awards Committee, subject to the approval of the President. It is given in recognition of many years of exceptional service to the CHS. **Ellin Beltz** and **Steve Sullivan** each received the CHS Merit Award. This honor is given each year to one or more individuals selected by the Awards Committee for outstanding service. **Grace Archer** became the second-ever recipient of the Youth Merit Award, presented in recognition of outstanding service by a member under 18 years of age. The Presidential Service Award is bestowed each year by the current CHS President to one or more individuals for being particularly helpful to the President or to the CHS Board. Lori King felt that both **Rich Crowley** and **Linda Malawy** deserved this award for 2003.

## HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the "Herp of the Month" to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners as follows: 1st place—6 raffle tickets at next meeting; 2nd place—4 raffle tickets at next meeting; 3rd place—2 raffle tickets at next meeting. Here are the categories for the coming months: January—Herps from South America; February—Herps from Africa; March—Amphibians of the world; April—Beginner herps; May—Herps from Madagascar.

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